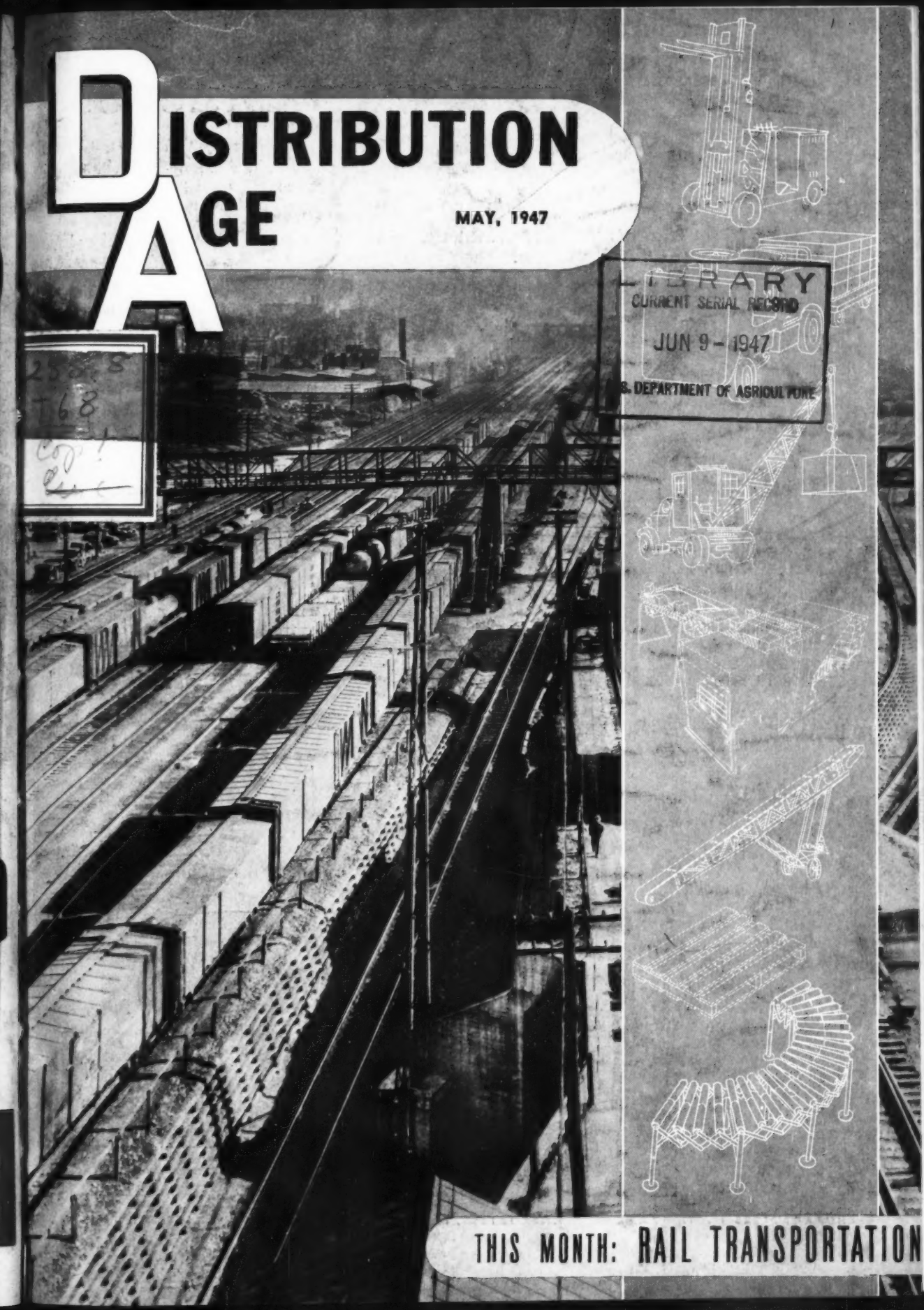
DISTRIBUTION AGE

MAY, 1947



THIS MONTH: RAIL TRANSPORTATION

Here's How Transtacker Stacks up Savings of $4800.00 in RENT alone!

When it comes to printing paper, I'm here to tell you, you're handling *heavy stuff!* But leave it to TRANSTACKER. It moves bulky, heavy paper like so much air—automatically, with the touch of your thumb.

And with its hydraulic lift, *stacks* to new heights just as easily. Manual handling limits storage space to workers' brawn. That's ended since we put TRANSTACKER to work for us. In extra storage space utilized, it has saved us $4800.00 *in rent alone!* At its low price of $1800.00, that's a bargain for any man's money.

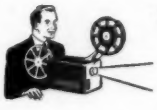
Add to this its average saving of 50% in any material handling operation—its saving in human energy, and you have the reason American industry uses this miracle of electric power so widely.

With a capacity up to 4000 pounds, it's light in weight for limited floor and elevator capacities—and its operating cost hits a new low. Send coupon. *Your* savings most likely will be as much *or more!*

TRANSTACKER equipped with rollers on platform and rollers on edge of bins permits easy stacking of 750 pound boxes of paper stock—and just as easy removal. A one man operation—storage space easily doubled.

TRANSTACKER stacking 1300 pounds of paperstock in storage area—illustrating that the heavy materials can be lifted to new heights. Up to 4000 pound loads could be handled just as easily. One man does a three man operation.

LOOK TO THE LEADER FOR ALL THAT'S NEW



Be sure to see ATCO'S new film

"PAY LOADS... PAY OFF"

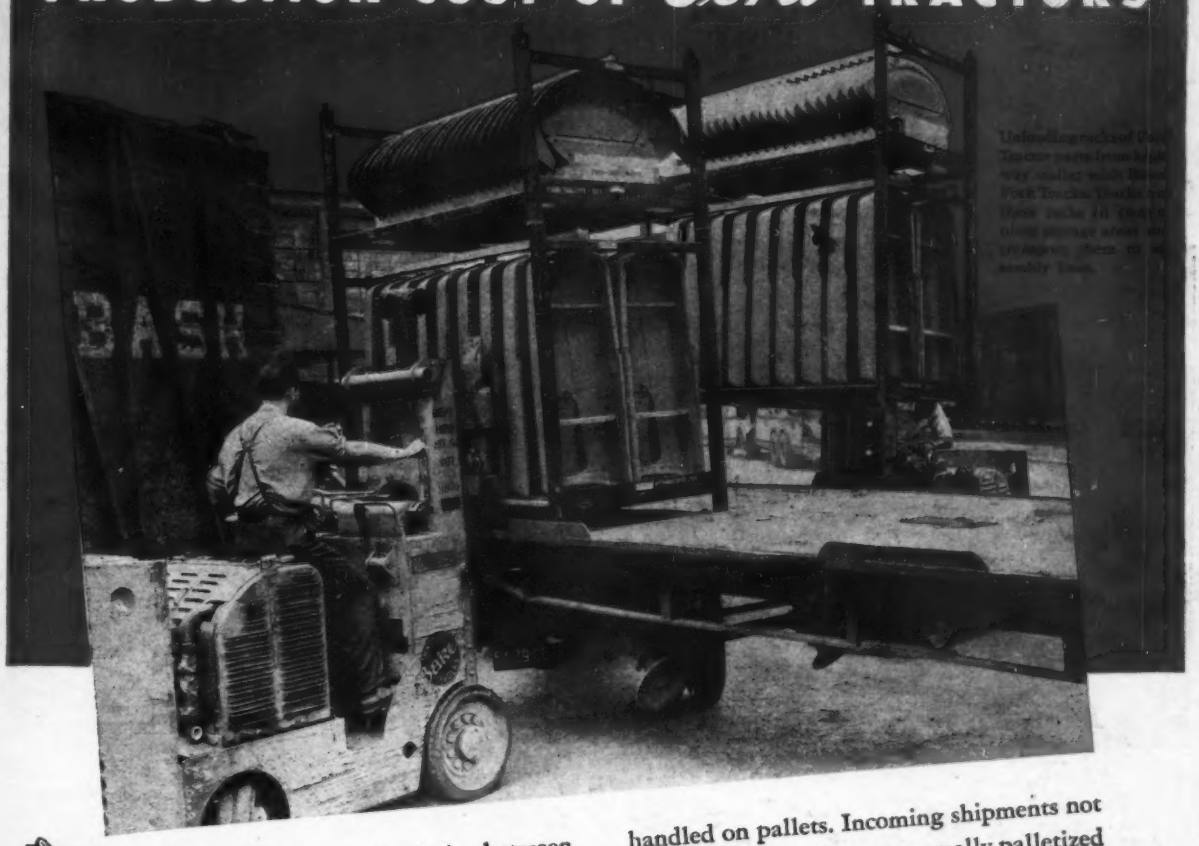
Transtacker
A PRODUCT OF AUTOMATIC
Lightens LIFE'S LOADS

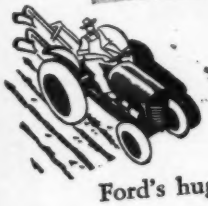
AUTOMATIC TRANSPORTATION COMPANY
DIV. OF THE YALE & TOWNE MFG. CO.
115 West 87th Street, Dept. E-7, Chicago 20, Ill.
( ) Send information on Automatic Transtacker.
( ) Have an ATCO Specialist make a free survey of my materials handling costs.
( ) Schedule me for an early showing of ATCO's new movie, "Pay Loads Pay Off."

Company Name.....
By.....*Position*.....
Street Address.....
City.....*State*.....

MANUFACTURERS OF THE FAMOUS TRANSPORTERS, TRANSTACKERS AND SKYLIFT ELECTRIC TRUCKS

BAKER TRUCKS *help lower* PRODUCTION COST OF *Ford* TRACTORS





The essential relation between "mass production" and "engineered material handling" is effectively demonstrated at Ford's huge Highland Park, Mich., tractor plant. Here modern mechanized handling facilities consisting of hoists, roller conveyors, sliding ways and a fleet of Fork Trucks, keep materials moving in a highly integrated, efficient flow pattern reducing handling costs to a minimum.

Wherever possible, parts and materials are handled on pallets. Incoming shipments not palletized by suppliers are usually palletized upon arrival—and the ultimate aim is to have all suppliers ship on pallets. Certain parts, such as tractor fenders, arrive nested on tierable racks (see illustration). Besides cutting costs by eliminating individual piece-by-piece handling, this "unit load" system permits tiering to conserve storage space.

Baker Material Handling Engineers are prepared to recommend similar cost saving methods for your plant.

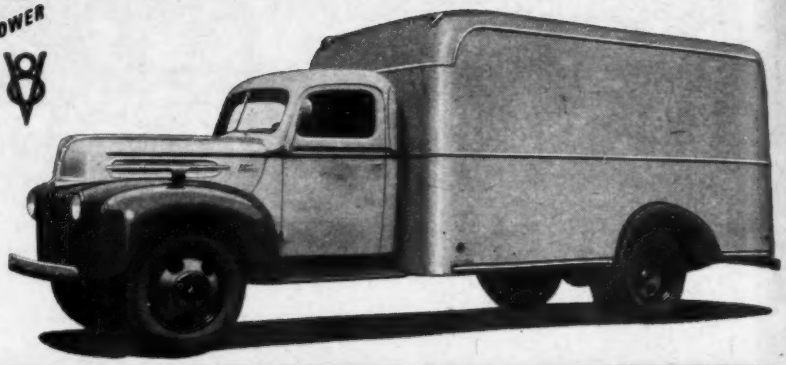
BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
2176 WEST 25th STREET • CLEVELAND, OHIO
In Canada: Railway and Power Engineering Corporation, Ltd.

EITA
Member: Electric Industrial Truck Association

1311-1-47

Baker INDUSTRIAL TRUCKS

THE 6 YOUR PICK OF POWER THE V-8



Your Ford Dealer can provide precisely the right type of body to handle your loads best. This 2-unit van was built by McCabe-Powers Auto Body Co., St. Louis, Mo., on a Ford 1½-ton chassis.

"WE AGREE—

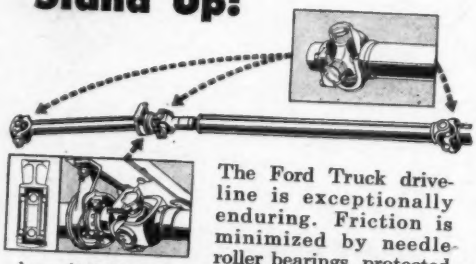
FORD TRUCKS LAST LONGER!"

Mr. Robert S. Swanson, treasurer, S. B. Thomas, Inc., Long Island City, N. Y., wrote recently: "In our fleet of 128 Ford Trucks, 36 are over 10 years old, and 5 are 1932 models—14 years old! Their reliability and economy have given us good reason to be thankful that Ford Trucks Last Longer."

ONLY FORD GIVES YOU ALL THESE LONG-LIFE TRUCK FEATURES: Either of two great engines, the V-8 or the SIX, both with full pressure lubrication to all main, connecting-rod and camshaft bearings, Flightlight oil-saving 4-ring pistons, precision-type heat-resistant bearings and fast-warmup temperature control • rear axle design that takes all weight load off the shafts (¾-floating in half ton units, full-floating in all others) • heavy channel section frames, *doubled* between springs in heavy duty models • big, self-centering brakes, with heavy, cast drum surfaces, non-warping and score-resistant—all told, *more than fifty* such examples of Ford endurance-engineering.

NATURALLY, FORD TRUCKS LAST LONGER! Latest 1946 registration figures show that 78% of all 1936 model Ford Trucks in use 9 years ago are still on the job! That's up to 15.8% better than the records of the next four sales leaders—5% better than the average of all four. More than 100 body-chassis combinations. See your Ford Dealer!

ONE Big Reason— Ford Drive-Line Units Stand Up!



The Ford Truck drive-line is exceptionally enduring. Friction is minimized by needle-roller bearings, protected by relief fittings, in all universal joints in all models. Half-ton chassis have two such joints. All other models (except 101" w.b.) have three, and, in addition, a heavy duty ball center bearing. This bearing is self-aligning—cushion-mounted in live rubber. It is leakproof, excluding dust and water. It is unaffected by frame flexing and is notably long-lived. Large-diameter tubular steel propeller shafts with forged ends are properly balanced. This assures freedom from destructive vibration and great strength without excess weight.

Ford

MORE FORD TRUCKS IN USE TODAY THAN ANY OTHER MAKE

DISTRIBUTION AGE

The Magazine That Integrates All Phases Of Distribution

100 E. 42nd St., New York 17

THIS MONTH'S COVER

demonstrates that transportation and handling are inseparable twins in our system of distribution.

Subscription Rates: U. S., $5.00 per year; Canada, $8.50 per year; Foreign Countries, $6.00 per year. Single Copies, 50c. each.

Acceptance under the Act of June 5, 1934 at Harrisburg, Pennsylvania, authorized May 28, 1946

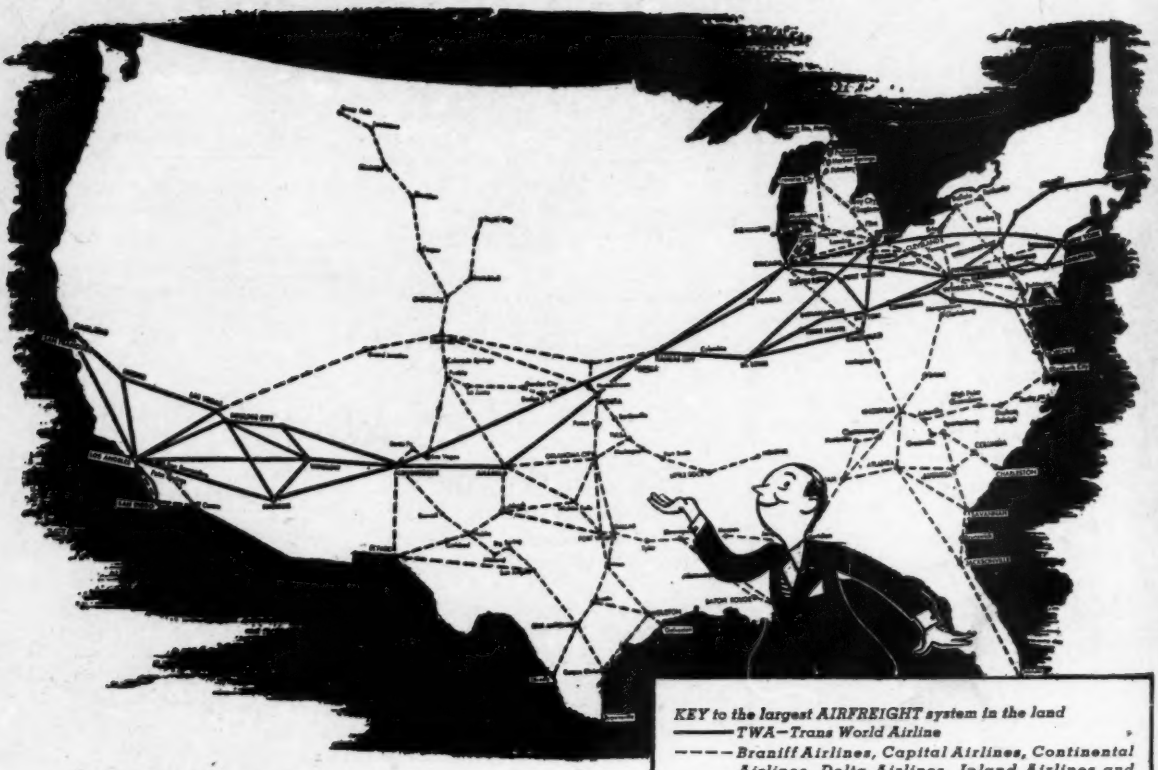
VOL. 46, NO. 5 **MAY, 1947**

Special Features

Departments

STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.

"Mr. Traffic Manager...



KEY to the largest AIRFREIGHT system in the land
——— TWA—Trans World Airline
– – – – Braniff Airlines, Capital Airlines, Continental Airlines, Delta Airlines, Inland Airlines and Western Airlines—also publish joint rates with TWA.

TWA Offers

THE BIGGEST AIRFREIGHT NETWORK in America!"

CLEVELAND—BUFFALO—ROCHESTER — ATLANTA — BIRMINGHAM — NEW ORLEANS are only a few of the new industrial areas which may be reached via **TWA Airfreight.**

This makes it possible for you to consign a shipment via TWA or one of the participating airlines and know it will travel, *at one rate and on one through-bill,* to any destination along this country-wide network, linking the most productive areas in the land.

Every TWA flight, whether it's an all-cargo Skyfreighter or a regularly scheduled passenger plane, carries airfreight. In fact, 80% of our airfreight shipments ride on passenger planes which, of course, greatly outnumber the Skyfreighters.

Shipping by **TWA Airfreight** assures you the fastest flying freight — on the largest airfreight system in the land.

For complete details, call the nearest office of TWA, or one of the other airlines mentioned.

TWA now welcomes Capital Airlines (PCA) and Delta Airlines as participants in the TWA Airfreight tariff

TWA AIR·FREIGHT

Put wings on your letter for a nickel

TWA's The Way To Ship—For Airfreight Flies On Every Trip

This four-wheel Highway Trailer was an early model built for National Tea Co. Note the contrast with the new Highway Trailer, one of the fleet recently delivered to National Tea Co.

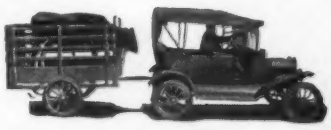
1917-1947

30 years of Highway Trailer Progress!

HIGHWAY TRAILER COMPANY was organized in Edgerton, Wisconsin, on May 1, 1917. Its first plant was an old wagon works. Its first trailer was a two-wheeler of one-cow capacity.

Thirty years and two wars later, the company has grown to include modern factories at Edgerton and Stoughton, Wisconsin. The newly enlarged Edgerton plant has 400,000 square feet of floor space and its own foundry, forge, and machine shops. From the beginning, Highway Trailers have been *manufactured* rather than being merely assembled.

During 30 years of continuous trailer manufacturing, Highway Trailer engineering standards have always been of the highest. There has never been any compromise with quality. Today, on every U. S. highway, Highway Trailers are breezing along in every type of motor transport service, earning profits for their owners. Write today for illustrated color booklets. Learn why it pays to let your next trailers be Highways!



This was the first Highway Trailer with a rated capacity of one cow. Sold at the county fair in 1917, it is still in use.

HIGHWAY TRAILER COMPANY

General Offices, Edgerton, Wisconsin
Factories at Edgerton, Wis. • Stoughton, Wis.

Commercial Truck Trailers • Earth Boring Machines
Winches and other Public Utility Equipment

HIGHWAY
AMERICA'S QUALITY
TRAILERS

"BUT THAT'S ONLY PART OF OUR SAVINGS WITH *electric* INDUSTRIAL TRUCKS!"

"Granted they cost less—much less—to maintain. That's logical when you count their moving parts . . . *none* in the battery, *one* in each motor."

"And we know, on energy cost alone, we save more than sixty per cent."

"But the *real* pay-off comes from their staying on the job, putting material where it's wanted, when it's wanted . . . without added investment in standby equipment. Minutes saved by men and machines on the production line are the *big* savings that help profits."

That, in a nutshell, typifies the conviction of experienced owners who have found, to their profit, that battery-powered trucks show a unique ability to "stay on the job."

Down time for inspection, maintenance or repair is negligible—so much so that standby truck equipment is unnecessary in many plants.

Is the economy of dependable material-handling, plus lowest operating cost, what *you* want from industrial trucks—rather than economy in first cost alone?

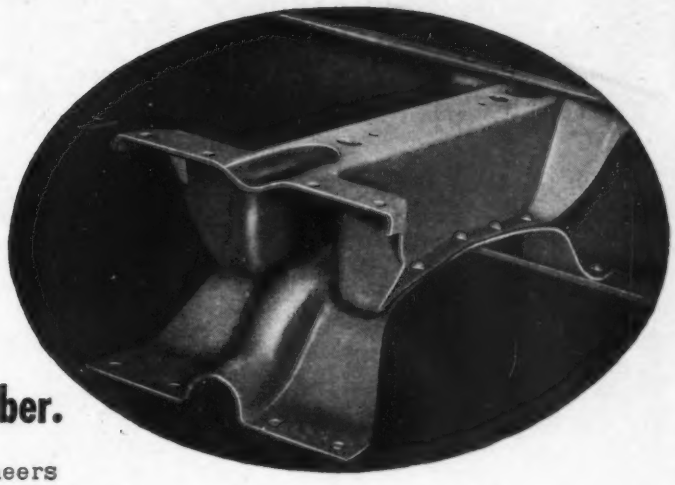
We believe that it is, for it affects ultimate profits of most business concerns more directly—and more heavily—than does a lower original investment.

SEND FOR THESE FREE MANUALS

The MATERIAL-HANDLING HANDBOOK and UNIT LOADS have helped many organizations to plan material-handling savings that go straight to profits. Your letter will bring them, without charge.

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION

208-D South La Salle Street • Chicago 4, Illinois



This is a box-girder cross-member.

It is a Mack box-girder. Mack engineers designed it; you find it only on Mack trucks. It has proved the best all-around cross-member ever designed.

It has tremendous beam strength in both vertical and horizontal planes. It possesses extremely high torsional rigidity. Its specially designed jaw ends assure greatest possible stiffness at every junction.

Consequently, it ties side-members together positively; always keeps them uniformly spaced. It imparts exceptional torsional stiffness to a frame. It won't spraddle. It produces a frame that won't weave, a frame that stays true, a Mack frame!

This cross-member is an example of what we mean when we say a Mack is a precision-built truck and not a mass-production truck. Every part of a Mack is specifically designed and engineered to do its job.

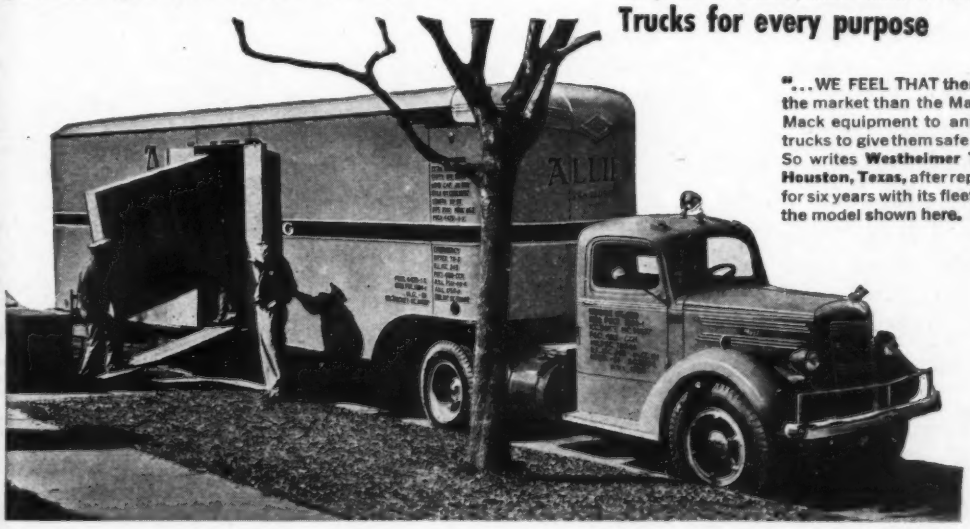
We put this extra work into Macks—so you can get extra work out of them.

Mack

since 1900, America's hardest-working truck

Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada Ltd.

Trucks for every purpose



"...WE FEEL THAT there are no better trucks on the market than the Mack...We will recommend Mack equipment to anyone who is looking for trucks to give them safe and dependable service." So writes **Westheimer Transfer & Storage Co., Houston, Texas,** after reporting "splendid service" for six years with its fleet of Macks which includes the model shown here.

LEWIS-SHEPARD TRUCKS

FAST! SAFE!! ECONOMICAL!!!

100% Electric
POWER JACKLIFT

This NEW L-S Power JackLift is 100% Electrically operated! Electric Drive, Electric Lift, Electric Brake each completely controlled with handle vertical and in all positions. The ability to operate truck with the handle in every position, provides the operator with a convenient handle-height, at any speed . . . gives him better control of truck at all times. . . . Allows him to maneuver in congested areas and in less floor space. Increases storage space!

100% Electric Operation

with Handle Vertical and in all positions.
100% Electric Drive —
100% Electric Lift —
100% Electric Brake

Models for Skid Platform handling in 4000 and 6000 lbs. capacity, 4-standard heights, 6 lengths, 2 widths. Pallet Models, 4000 lbs. capacity and 4 fork lengths — a complete line.

Platform Type
Power JackLift

L-S POWER FORK TRUCKS
"Pivot on a Platter"

Save Time and Money, Increase your Storage Space with L-S Fork Trucks. Electric, Gasoline and Gas-Electric Models up to 4000 lbs. capacity. These rugged trucks operate in narrower aisles and right-angle pile in a single quarter turn.

L-S
Hand Operated
JACKLIFTS and HYDRAULICS

An economical investment for long, efficient service. Light in weight and built to carry all loads. JackLifts, 3" lift in 2500 to 5000 lbs. capacity. Hydraulics in both HandLift and Foot-Lift Models, 3500 to 15,000 lbs. capacity with 4" lift or higher.

MULTIPLY MANPOWER · LEWIS-SHEPARD

LEWIS-SHEPARD PRODUCTS INC.

321 WALNUT ST., WATERTOWN 72, MASS.

REPRESENTATIVES IN PRINCIPAL CITIES (Bell System) CONSULT YOUR PHONE DIRECTORY

SINGLELIFTS · HYDRAULIC HANDLIFT TRUCKS · JACKLIFTS · SKIDS · FLOOR TRUCKS · PALLET TRUCKS · STACKERS · PALLET STACKERS
PRODUCTION TILTERS · CRANES · RACKS · ELECTRIC, GAS-ELECTRIC AND GASOLINE POWERED FORK TRUCKS · POWER JACKLIFTS

FOR FIREBALL DELIVERY TO AND THRU THE SOUTH!

Like a no-hit hurler on his hottest day, Delta has high speed delivery in handling Air Freight. On-line or connecting shipments are expedited in loading, flight and pick-up or delivery.

Ship Thru Delta Gateways For Speed to the South

Specify Delta for fast Air Freight service from the Mid-West, Far West and Central Atlantic states. Ship through Chicago, Dallas, or Fort Worth from Western points. And through Chicago, Cincinnati or Knoxville from the central part of the nation.

Seven major airlines connect with Delta at these key terminals. All Delta flights carry Air Freight and the high frequency of schedules saves time on transfers. Rates are as low as 21 cents a ton-mile, with a capacity up to 7,000 pounds in the Delta DC-4's. Pick-up and delivery is available in all Delta cities.

Delta's rates apply equally to all commodities. For point-to-point rates and schedules, write to Air Freight Supervisor, Delta Air Lines, Atlanta, Georgia. Or call any Delta office.

Delta AIR LINES

General Offices, Atlanta, Ga.

A PLANT THAT'S BUILT AROUND A TRAFFIC PLAN!

HERE is a simplified plan view of Fruehauf's new Trailer manufacturing plant now reaching completion at Avon Lake, Ohio . . . about 21 miles west of Cleveland.

Traffic in this new plant was planned *before* the blueprints were drawn! *Traffic flow* . . . both *internally* and *externally* . . . is directly coordinated with production at every stage. Every spot on the factory floor is within a minute's reach of loading platforms by mechanical handling devices.

LOADING PLATFORMS ACCOMMODATE 24 BIG TRUCK-TRAILERS!

One entire side of the factory building . . . nearly a half-mile in length . . . consists of *inside* receiving and shipping facilities—both truck and rail.

Six enclosed truck wells . . . each accommodating 4 large Truck-Trailers . . . are spaced at intervals along the plant.

A railroad track runs inside, the length of the building, with an outside spur track connecting at the center for switching cars.

The half-mile long receiving platform is at Trailer or rail car door level. Roadway, truck wells, approaches and rail tracks are all on one grade. Ramps are not needed.

20,000 FEET OF CONVEYORS!

Mechanical conveyors . . . overhead cranes and floor handling equipment . . . extend the length of the dock area and travel into every part of the plant. Wide, open aisles facilitate flow of floor traffic. Materials unloaded from trucks or rail cars are carried *directly* to storage spaces at the assembly points. Similarly, outgoing shipments of parts are made directly from the assembly point. Double handling is eliminated!

"SPOT" DELIVERIES!

Purchase orders will specify the truck well or station at which delivery is to be made—so that materials will be received at the dock nearest assembly point.

Here is an outstanding example of *built-in* transportation—designed to take full advantage of the flexibility and economy of motor transport.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER CO. • DETROIT 32

10 Factories — 66 Factory Service Branches

YOUR TRAFFIC MANAGER AND ARCHITECT KNOW

Experience proves that by gearing Trucks and Trailers with production and distribution, a business can be operated with greater efficiency at lower cost.

Our Traffic Manager had an important part in planning the new Avon Lake plant. If you are altering or building a factory or warehouse, let your Traffic Manager and your architect work out the details together. Then you'll be sure of the right answer.

FRUEHAUF TRAILERS

"ENGINEERED TRANSPORTATION"

A TRUCK IS LIKE A HORSE — IT CAN PULL MORE THAN IT CAN CARRY

EDITORIALS

Distribution Productivity

DISTRIBUTION is an expensive and complex process. This necessarily is so since it is concerned not only with the creation of markets but with the numerous and ramifying problems incident to the movement of raw materials to points of production and the movement of finished products from these points of production to points of ultimate consumption or use.

The costs and techniques of distribution differ not only between products and between companies selling similar products but they differ when a product, as sometimes happens, is marketed first on a quality basis and later on a price basis. When, as in the latter case, such a change in marketing objectives occurs, it involves, in most cases, a reappraisement of the relative importance of the purely marketing and the physical phases of distribution and a readjustment in management's point of view as to where the emphasis should be placed in the distributive process.

Let us take, by way of example, the suppositious, but by no means improbable, case of a product which progressively passes from the high price, or quality, market through intermediate markets until finally it reaches the highly competitive, low price market in which mass distribution becomes a "must." At the start, because of product novelty, exclusive features, or because patents have given management control of the field, the mark-up usually is high and the emphasis is placed by management on the need for efficiency in the purely marketing functions of creating demand and selling. The possibility of lowering distribution costs through improved efficiency in the physical problem of getting the product into the hands of consumers or users too often receives little or no consideration; such economies are frequently viewed as representing so small a segment of the overall distribution cost as to be scarcely a legitimate concern of top management. But when, however, this same product because of market saturation, patent forfeiture, or other reasons, is forced into the lower price markets, the physical phases of distribution progressively becomes more and more important until a point is reached where, equally with marketing, they become an immediate and vital concern of top management.

The problems of individual companies engaged in distribution can be regarded for purposes of illustration, as lying somewhere between these two extremes. Irrespective of where the emphasis is placed in distribution, all companies meet on this common ground—the need for increased distribution. The problems of different companies, however, involve so many differing and complex elements based on individual circumstances that any generally applicable approach to this overall problem is difficult if not impossible of attainment.

Perhaps a partial answer is to be found in the suggestion recently made by Fenton B. Turck, president, Turck, Hill & Co., Inc., that we apply to the ramifying problems of distribution the same tool which has made production so efficient. This tool is productivity per man-hour. Through its use, Mr. Turck believes, we can accurately appraise and evaluate the relative importance of the various distributive functions.

Three general approaches, he believes, will be found useful in almost every case. 1. The evaluation and improvement of all physical phases of distribution. 2. The elimination of all unessential distribution functions. 3. The knowledge and control of all distribution functions and costs.

Mr. Faricy and the A.A.R.

WILLIAM T. FARICY, the newly elected head of the Association of American Railroads, assumes control during a critical period in railroad history. Now, perhaps more than ever before, railroad management requires vision and courage to deal with the facts and implications of current economic and political trends. Despite the impressive record achieved by the roads during the war, their present financial position is far from sound. In addition, they find themselves hampered by inadequate rates and inordinately high operating and labor costs, by insufficient rolling stock and other equipment, by materials shortages and by obsolete and outmoded materials handling equipment and practices. Mr. Faricy, judging from what we hear of him, brings to his new and difficult task an energetic and forthright personality. His recent statements to the press would suggest that under his guidance the A.A.R. is prepared to take more aggressive action than heretofore in the many current problems and controversies confronting it. DISTRIBUTION AGE extends to Mr. Faricy its best wishes for success. Our good wishes also go to his predecessor, R. V. Fletcher, who has served as interim head since the death of John J. Pelley, last November.

D. J. Witherspoon

Editor

NEXT MONTH

THE June issue will deal largely with packing and packaging. Some of the major features scheduled include:

FUTURE TRENDS IN PACKAGING . . . by E. A. Throckmorton, vice president, American Management Assn., and president, Container Testing Laboratories, who will discuss container types of the future.

●

STEPS IN PACKAGE DESIGN . . . by Benjamin L. Webster, Industrial Designer. A check list for top executives contemplating a packaging program.

●

"PREFERRED NUMBERS" IN PACKAGE DESIGN . . . by Dr. John Gaillard of the American Standard Assn. A rational approach to the problem of setting up size ranges in the interest of standardization and simplification for more efficient distribution.

●

MONTGOMERY WARD'S PACKING PROGRAM . . . by Randall R. Howard, Special Correspondent, outlining one of the most gigantic and interesting packaging programs in the country involving thousands of products distributed through 10 mail order houses and 650 company owned retail stores.

●

PRODUCT PROTECTION . . . Staff written. How International Harvester protects its 300,000 different products in shipping, storage and marketing.

●

HOW FREIGHT RATES ARE MADE . . . by G. Lloyd Wilson, Professor of Transportation and Public Utilities, University of Pennsylvania, who discusses the rate-making machinery of the various carriers.

●

PACKAGING FOR GOODWILL . . . by Gale C. Cunningham, Packaging Engineer, North American Aviation. Many companies spend thousands of dollars for customer goodwill but too often jeopardize this goodwill through faulty packaging. North American has set up a packaging engineering department which evaluates package and packaging requirements.

LETTERS to the Editor

Note from Abroad

Sir:

I am sending you a copy of a letter recently received from our correspondent in Bucharest, Roumania.—C. A. Aspinwall, president, Security Storage Co., Washington, D. C.

Inclosure, in part:

. . . Here special interest lies in articles of American industry, the most sought for articles being pleasure automobiles and trucks, also autos similar to *vokswagen*, machinery for the petroleum and gasoline industries, wood working machinery (planes, band and cross cut saws, lathes, etc.), farming machinery and implements, mills, milk separators, refrigerators, household and office furniture, typewriters, bookkeeping machines, filing cases, safes, radios and their parts, electric motors, electrical material, sewing machines, machinery for the textile industry, and in fact, everything.

In manufactured goods those most needed include textiles, leather goods, dyes for the textile industry, raw rubber, medicines, chemical products, steel and ironware, excelsior, items of food such as cocoa, chocolate, coffee, condensed milk, etc.

The greatest drawback, however, is in the payment. Up to now one has tried to maintain his business by subsidies, for America has little use for the raw Roumanian products such as cereals, oil, wood, etc. Heretofore there have been some compensatory exchanges with neighboring countries such as Czechoslovakia, but private efforts have resulted in but a small beginning.

There seems to be only one feasible prospect. America should establish in Roumania (which is the natural gateway for neighboring countries) a transit storage center for all such industries and wares as mentioned above, the most important goods to be bought at prevailing prices and in the judgment of the American commercial authorities and over here under the management of an American agent.

Through the establishment of such a storage center, the reforwarding would be facilitated wherever possible with relatively low customs charges. Under such an arrangement, imported goods could be consigned to responsible agents here with proper credit guarantees and thus a purchaser could obtain heavy goods from America and avoid the fluctuations of exchange in connection with the transportation charges, etc., from America to Bucharest . . . —**Max Revai, Bucharest, Roumania.**

o o o

60 Functions

Sir:

I have noticed a very interesting article in the November 1946 DISTRIBUTION AGE by Henry G. Elwell.

In this article he brought out the fact that there are **sixty** major functions in the work of a traffic department. I am particularly interested in this and, if it is not too much trouble, could you send me a list of those sixty functions referred to by Mr. Elwell.—**A. R. Sheff, Tom H. Bartel, warehousing, Detroit.**

Mr. Elwell's reply:

I am pleased to enclose a copy of Index 120.1 issued by Elwell, Philips & Co., Inc., which outlines the traffic functions under five headings. This list is arranged to indicate the type of work which should be handled or supervised by the general traffic department of a shipper. While the arrangement is somewhat different, nevertheless the list of functions shown is based on data contained in the report "Industrial Traffic Management" issued by the U. S. Department of Commerce.

Inclosure in part:

The following outlines the operations which we handle or supervise. Such operations cover transportation via rail, water, truck, and air; passenger, freight, express and mail; domestic and foreign.

I. CONSULTIVE:

1. Bulletins regarding transportation changes. 2. Advising of competitive transportation changes. 3. Analyzing plant locations. 4. Analyzing warehouse locations. 5. Advice on shipping policies and their effect on and relation to sales, distribution, purchasing, etc. 6. Interpreting I. C. C. regulations re private, contract and common carrier trucking. 7. Interpreting regulatory and carrier rules and tariff provisions.

II. RESEARCH:

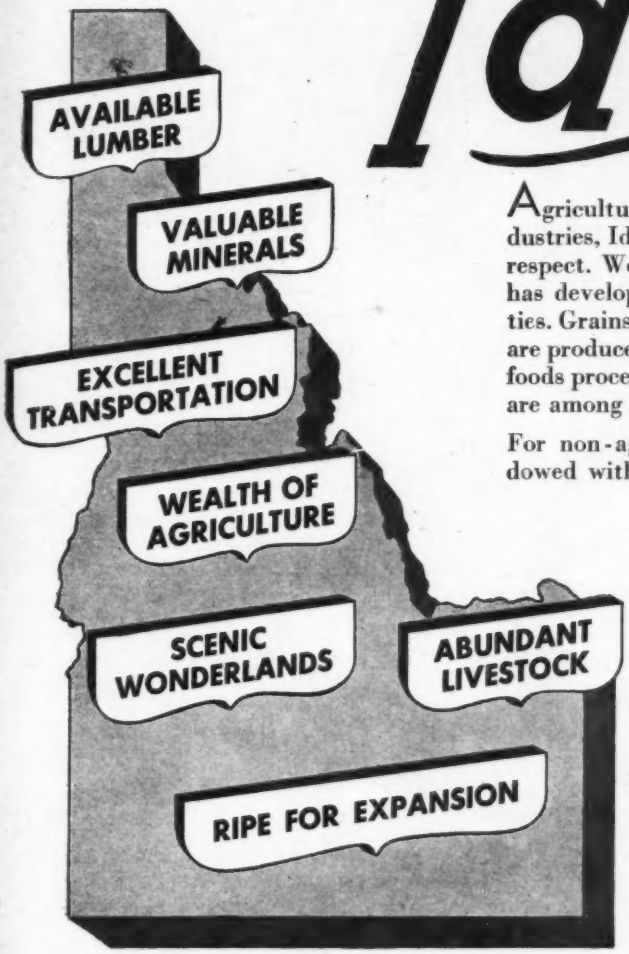
8. Keeping informed of current changes affecting transportation. 9. Analyzing and comparing tariffs and rates. 10. Detecting rate and service discriminations. 11. Analyzing shipping descriptions and classifications. 12. Package and container studies. 13. Carloading and bracing

(*Continued on Page* 40)

UNION PACIFIC

TREASURE MAP OF INDUSTRY

Idaho*

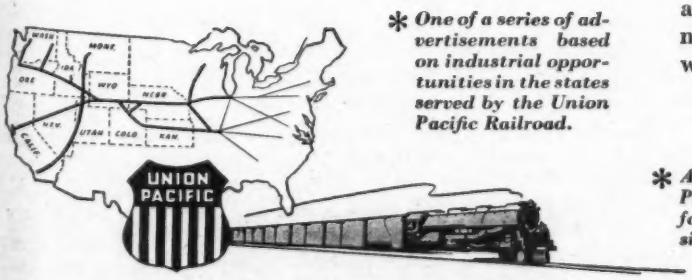


Agriculture being the life-blood of many industries, Idaho is particularly fortunate in that respect. World-famous for the Idaho potato, it has developed many other agricultural activities. Grains, vegetables, fruit... cattle and sheep are produced in abundance. Dehydration, frozen foods processing, dairying, canning and packing are among the state's flourishing industries.

For non-agricultural industries, Idaho is endowed with rich veins of minerals. Numerous manufacturers of stone, clay and glass products have established plants in Idaho. Lumber for building and wood products is available. Unsurpassed rail transportation is provided by Union Pacific.

As a vacation region, Idaho has a wonder-world of its own in Sun Valley . . . year-'round sports center... the world famous primitive area . . . and in the scenic surroundings of Payette Lake.

Idaho is a young thriving state, ripe for further industrial development. It offers good living and working conditions, good schools, splendid cultural advantages . . . and its energetic citizens assure newcomers of a true western welcome.



* *One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.*

* *Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska, for information regarding industrial sites.*

UNION PACIFIC RAILROAD

THE STRATEGIC MIDDLE ROUTE

the BUDA Chore Boy TRACTOR

BUDA now offers the latest addition to its popular line of Industrial Trucks . . . the Chore Boy *TRACTOR*, engineered for fast, low-cost towing in and around terminals—warehouses—shops . . . wherever materials must be handled. Here are some of the new *TRACTOR'S* features:

★ 4-cycle air-cooled gasoline engine ★ Speeds up to 10 m.p.h. ★ Powerful—1050 pound drawbar pull. ★ Welded all-steel frame and body ★ Standard foot brake, plus automatic safety brake ★ 3 speeds forward—1 reverse.

Get the complete story about the new Chore Boy *TRACTOR* right now. Write for Bulletin 1322 today.

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Rail Benders

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BUDA
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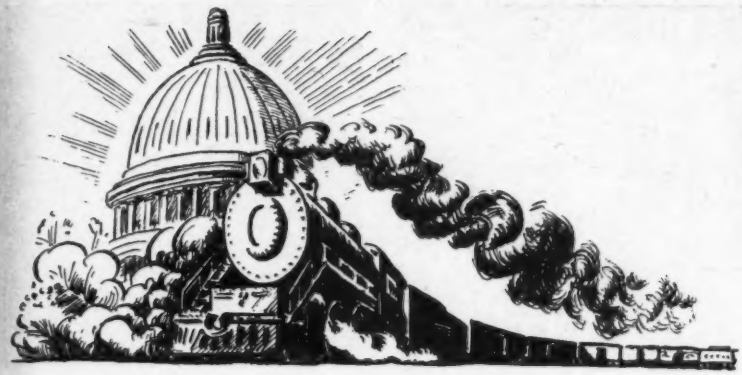
BUDA

15454 Commercial Avenue
HARVEY (Chicago Suburb) ILLINOIS



Mr. Kruckman discusses pending railroad legislation and its possible effect on the nation from the vantage point of his many years of experience as a congressional observer.

Congress and the Railroads

By ARNOLD KRUCKMAN

Washington Correspondent

It is doubtful whether the Bulwinkle Bill, known in the Senate as the Reed Bill, (S.-110), will come before either chamber of Congress for a vote until later this year. Senator Clyde Reed sturdily maintains that since it is on the calendar in the Senate, he is certain his colleagues will keep their word and bring the bill on the floor for debate before the end of July, when Congress must adjourn under the rules of the new reorganization program. But there are so many counter-influences that observers think it is a forlorn hope. An explanation of the situation will help the businessman, wherever he is, to understand why legislation is so slow in unfolding. Freshman members of the Congress, to know the ropes, must attend the seminars for beginners to learn the essentials of basic proceedings in "the greatest deliberative body in the world." This session, it was necessary for all members of both houses to learn the new rules and the new functional system, under the reorganization program, initiated in January. Still another delay was caused by the shift from the Democrats to the Republicans, which involved new leadership. Just about the time it was assumed the rough edges had been smoothed down and the machine was processing major priority legislation successfully, it became evident that in effect a sham battle was going on in Congress, a delaying action in military terms, while the Congress was trying to make up its mind what to do about the budget and tax reduction as well as labor legislation and Mr. Lilienthal. The pressure from the country on all these issues has been insistent and enormous. But after the President introduced the Greece-Turkey support plan to stop Russia, it became clear to everyone here that it would be futile to make a budget until it could be more definitely determined how much the "stop Russia" program would cost. It was revealed rapidly, in off-record discussions, that the program not only meant financing military and industrial activities for the foreign nations, but that huge sums would have to be expended for similar purposes in Korea, China, the Philippines, in other parts of Asia, and in Iran, Syria, Arabia, Egypt, North Africa, Italy, France and Germany. Sen. George W. Malone of Nevada estimated the initial outlay would total between $5 billion and $10 billion and that only the Omniscient could know what the eventual developing program would mean in colossal expenditures. It was obvious the "stop Russia" program would have to come before the Congress quickly for a full dress debate. Despite the extreme reluctance in some quarters to engage in the development of the program, it was increasingly clear that, lacking any other plan, the Congress would be compelled to support the President's program. On the other hand, the country had not been thoroughly informed, and the country demanded tax reduction and budget legislation. For these reasons the House passed the tax reduction bill, throwing the baby into the lap of the Senate. Every one knows the President will veto tax reduction. It is probable the Senate will pass the tax reduction bill, and enact a budget with a ceiling to meet the popular demand. Meanwhile, the "stop Russia" program will be debated in the Congress, and the country will grasp the situation more intelligently. When the tax reduction bill reaches the President, and he vetoes it, the impression is that the people will understand more clearly why no tax reductions can be put into effect unless the Congress declines to support the President's foreign policy, which is not conceivable at this time. Incidentally, it is wise to bear in mind the "stop Russia" program means that we have again gone into an industrial and administrative economy which inevitably will have the effect of a full war economy, with controls over distribution for domestic and for-

(*Continued on Page* 74)

Publications of the AAR deal with practically every phase of railroading.

Mr. Henry

Today, the shipper has the benefit of standard time, standard cars, standard business methods, and a host of other standardized business features which have developed as the result of long cooperation, hard work and careful planning on the part of the railroads and the AAR.

A. A. R.--

NO ONE thing is more fundamentally important to the commerce of this country than the fact that any shipper, anywhere, can load a railroad freight car for through movement to any other point on the continent. That didn't just happen. It was brought about by railroads working together through organizations, some of which started as far back as the 1860's, which have since merged to become the present Assn. of American Railroads. And this free and unbroken flow of commerce could not be continued, day after day, but for the operations and services of this same common organization of the carriers—the Assn. of American Railroads.

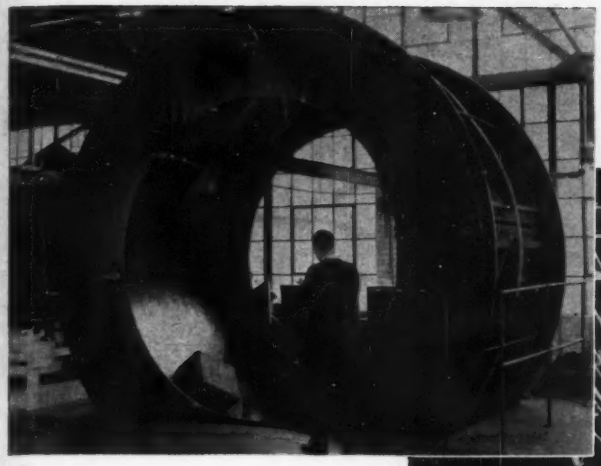
The scope and sweep of American commerce calls for thousands of cars shuttling back and forth on daily missions too various and to numerous to comprehend as a whole. But each single movement is a relatively simple affair now. It is understandable, and there are three parties who do understand it—the shipper, the carrier and the receiver of freight. But without the contributions to the American distribution system by the Assn. of American Railroads and its predecessor organizations, it would be far from a simple and understandable transaction to send anything, of any size or any weight or form, from any part of the country to any other part.

To the shipper, therefore, the AAR means something. It means an organization that is playing a strategic part in the teamwork between the shipper who loads an article of commerce, the different railroads which haul it, and the receiver who unloads it. Rather than having to deal with each one of several hundred competing railroads, the shipper or receiver of freight needs to deal with only one. Instead of receiving a bill from each railroad over which his shipment travels, he receives but one. If there is loss or damage, he needs to file but one claim.

Today the shipper has the benefit of standard time, standard cars, standard business methods and a host of other standardized features that came as the result of long cooperation, hard work and careful planning on the part of the railroads and their organization. But the most remarkable fact about all this standardization is that it was brought about without the use of coercive or punitive power. It was created entirely through teamwork, through free discussion and through the common interests of the railroads in matters of common concern.

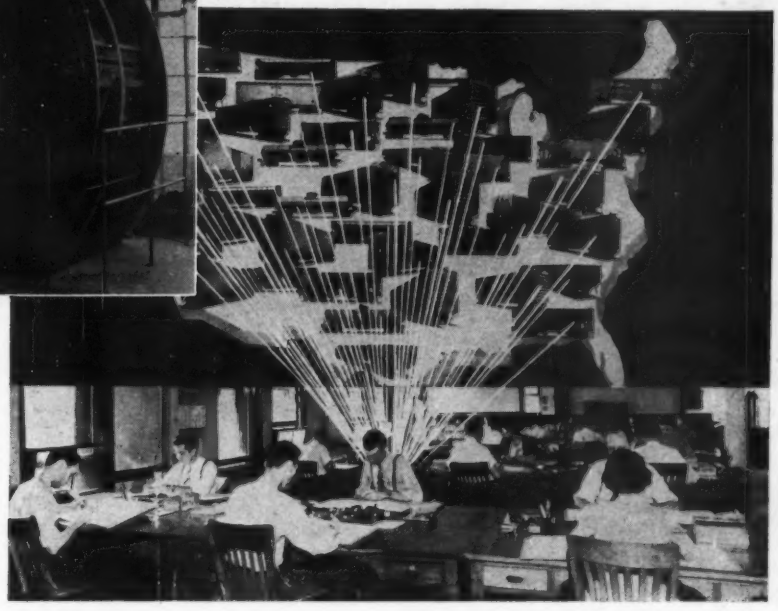
These many necessary features of modern railroad operation were set up in the first place through organizations which are now part of the Assn. of American Railroads, and they are carried on today through the Association's departments, divisions and sections in a more efficient manner and with less cost than they could possibly be without such an organization. In fact, they could not be carried on at all without such an organization as the AAR.

In recent years, the shippers themselves have been playing a larger part in the teamwork that makes possible the unbroken movement of freight. This started in



Left: Better and cheaper ways of packing and loading have been developed through container research sponsored by AAR.

Below: Every day and night, railroads know location of cars.



By ROBERT S. HENRY

Assistant to the President
Assn. of American Railroads
Washington, D. C.

A Triumph Of Teamwork

an organized way in 1923 at Minneapolis when a group of shippers, convinced they could help themselves by helping the railroads meet their needs, formed the Northwest Shippers Advisory Board. Since that time, the movement has expanded into 13 regional boards, with their own national organization, embracing a total membership of approximately 24,000 shippers. Although railroad and AAR representatives attend meetings of these boards and participate in the discussions, they do not have membership or voting power in the boards. However, the railroads and the shippers cooperate in the common cause of seeing that the stupendous production of the country reaches the ultimate consumer.

Serving as a balance wheel in keeping the commerce flowing throughout the country is the Car Service Division of the AAR. Through its field staff, the Division keeps a regular and close check on the interchange and movement of cars throughout the country, seeking the most equitable distribution and efficient use possible.

Along with the other standard features of the railroads, there are standard car types. However, within these standard car types there is a wide latitude in design to fit the particular characteristics of the many different kinds of goods which are transported by the railroads. To ship the thousands of commodities the nation demands today, there are approximately nine different types of box cars, at least three different kinds of ventilated box cars and ten different kinds of refrigerator cars. The list could be continued to include approximately 16 different gondolas, about eight varieties of slat-sided stock cars and an equal number of tank car types. Yet all of these go everywhere, an achievement in distribution which is one of the major factors in getting the country's enormous transportation job done.

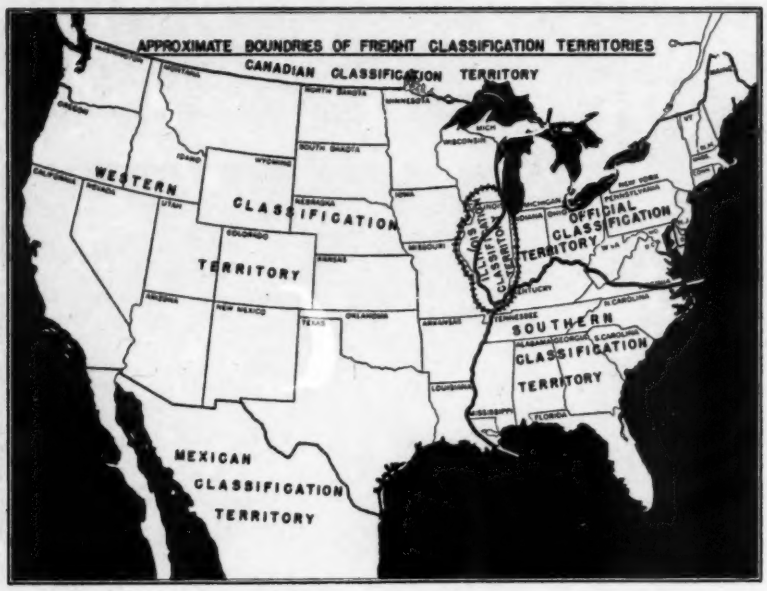
Having created a system of standard track, standard equipment to run on that track, and a means of placing this equipment at the disposal of the shippers and receivers of freight, the railroads and their organization are continually striving to improve these facilities. In many cases, the work along this line is of direct benefit to the shipper, as both the shippers and the railroads reap the benefits of lower costs, increased safety and efficiency and improved service.

More than 200 committees of the Assn. of American Railroads are now engaged in projects to further improve and standardize the railroads. And because of the interdependence of the shipper, the car-

(*Continued on Page* 53)

A Primer

By G. LLOYD WILSON
Professor of Transportation and Public Utilities
University of Pennsylvania
Wharton School of Finance and Commerce



FREIGHT rates are prices, the prices for the services rendered by transportation companies in the transportation of freight. The term is a contraction of the words, "rate of charge." The term charge is now used in transportation in two distinct ways, which sometimes cause confusion: first, to indicate the prices of supplemental services such as switching, fabrication-in-transit, demurrage, or other services, the charges for which are added to the rates; and, second, to indicate the total amount to be paid, arrived at by multiplying the rate per 100 lb. or per ton by the number of hundred pounds or tons. Thus the freight charges on 100,000 lb. of freight is 1000 times the rate per 100 lb., 40c., or $400. To this amount is added the charges for special or terminal services, unless the charges for these services are absorbed or borne by the carrier in the line-haul freight rates. If the charges are absorbed in the line-haul rates, provision to this effect must be made in the carrier's tariffs.

It is important to bear in mind that a rate or charge is a price. It is more than an ordinary price because it is a binding price which must be paid by the shipper and must be charged and collected by the carrier as required by law.

Although the point is of more historical interest than of present practical significance, in the early days of transportation by railway, rates were looked upon as a combination of (1) tolls for the use of the railed highways by users who supplied their own vehicles and motive power; and (2) service charges, if the vehicles and motive power were supplied by the company operating the railway.

The original charter of the Delaware, Lehigh, Schuylkill, and Susquehanna Railroad Co. (now the Lehigh Valley Railroad), granted by the Commonwealth of Pennsylvania in 1846, authorized the railroad "to charge and take toll for freight and transportation of passengers, goods, wares, merchandise, and minerals at rates as follows, to wit: On goods, wares, merchandise, property, or minerals transported on said railroad, or any finished product thereof, any sum not exceeding one and one-half cents per ton per mile for toll, and one and one half cents per ton mile for transportation, and for toll and transportation of passengers not exceeding three and one half cents per mile for each passenger."[1]

[1] Authority of Commonwealth of Pennsylvania to D. L. S. & S. R. R. Co. to incorporate, April 21, 1846, as quoted by Felix R. Gerard, *The Lehigh Valley Railroad—1846-1946*, a Centenary Address published by the Newcomen Society of England, American Branch, New York, 1946, p. 8, italics added for emphasis.

Freight rates and charges are of fundamental importance and have far reaching effects although the significance is not always appreciated. Freight rates are parts of the prices of all raw materials, semi-finished products for further manufacture, industrial goods, and consumers goods. In many cases several freight rates are paid in the process of producing, manufacturing, fabricating, assembling and distributing goods.

Freight rates are, therefore, important elements in the cost of production, distribution, and consumption. Like other costs of production and distribution and taxes, freight rates can be added to prices and passed on to the next buyer unless, due to competition, the prices of competitive sellers are the same in identical markets. In such cases, the producers, manufacturers, or distributors must absorb the differences in freight rates themselves and thereby decrease or shrink the amounts realized for their products.

The common law imposed upon the carriers the obligation of charging fair and equitable prices for their services. These general obligations have been restated and amplified by statutes of state legislatures and of the Congress of the United States. It is impracticable and unnecessary to discuss the state laws, excepting to note that many of the provisions of early state laws found their way into the original Act to Regulate Commerce of 1887 and its amendments, the body of federal legislation known as the Interstate Commerce Act, and, in turn, many of the provisions of the Interstate

# of Freight Rates

Freight rates are parts of the prices of all raw materials, semi-finished products, industrial and consumer goods and as such have fundamental and far reaching effects which are not always discernible. Rate making, while circumscribed by the requirements of the law, nevertheless is a managerial function and involves the intelligent appraisement of many related activities.

Part 1

Commerce Act have found their way into the present state laws.

The Interstate Commerce Act, as it now stands, regulates interstate transportation and commerce. It is divided into four parts: Part I regulates, generally, railroads, railway express, petroleum pipe lines and ancillary railroad services; Part II is applicable generally to common and contract motor freight and passenger carriers, and brokers in interstate commerce; Part III is applicable to certain domestic steamship carriers engaged in interstate coastwise, intercoastal, inland waterways, and Great Lakes trades; and Part IV is concerned with the regulation of freight forwarders engaged in interstate commerce. Sections of each of these parts impose upon the carriers, upon the Interstate Commerce Commission, and upon those who pay freight rates or charges, obligations which must be complied with.

In making rates generally the Act imposes upon the Interstate Commerce Commission to consider, among other things, three fundamental factors in making rates, fares, or charges, as well as the classifications, regulations, and practices relating to them: (1) the effect of the rates on the movement of traffic by the carrier or carriers for which the rates are presented; (2) the need, in the public interest, of adequate and efficient transportation service at the lowest cost consistent with furnishing the service; and (3) the need of revenues sufficient to enable the carriers or forwarders, under honest, economical, and efficient management to provide such service.[2]

Other sections of the Interstate Commerce Act, too numerous to identify by specific reference, provide the bases of lawful rates. Carriers must provide and furnish transportation at just and reasonable rates, including reasonable classifications of goods and regulations and practices pertaining to the services. Reasonable joint through routes, rates, and charges must be established; and equitable divisions of the rates between the carriers must be made. Free or reduced rate transportation is prohibited, excepting as specifically authorized in the Act. Special unjust discrimination by means of rebates or other devices is forbidden. Undue or unreasonable preference or advantage is prohibited. Special unjust discrimination through higher rates for shorter hauls included within longer hauls unless specifically permitted by the Interstate Commerce Commission, is forbidden, by the so-called Long-and-Short-Haul Clause of the Fourth Section of Part I of the Act.

Through rates may not be higher than the sum or aggregate of the intermediate rates over the same route without the Commission's authorization. The tariffs of the common carriers, naming their rates and charges, must be filed with the Interstate Commerce

[2] Interstate Commerce Act, Part I, Section 15A(2); Part II, Section 216 (i); Part III, Section 307 (f); and Part IV, Section 406 (d).

Commission and kept open for public inspection. Ordinarily thirty days' advance notice is required of all changes in rates or charges, excepting that the Interstate Commerce Commission may grant special permission for good cause to permit them to become effective upon shorter notice. All tariffs must be published and filed in the form presented by the Commission; otherwise they may be rejected by the Commission. If rejected, they are void and their use is unlawful. The published rates and charges must be strictly observed, subject to penalties provided by the Act.

The Interstate Commerce Commission, either upon complaint or upon its own initiative, after hearing, may determine that any rate or charge is unlawful and fix the maximum, minimum, or precise rate which it finds to be lawful. The Commission may suspend any tariff or schedule publishing a new individual or joint rate or charge, upon complaint or on its own initiative, pending decision as to the lawfulness of the rates or charges. The maximum period of suspension is now seven months. If the decision of the Commission is not reached within that time, the rate or charge goes into effect until the Commission fixes the lawful basis.

Those who believe themselves to have suffered damage as a result of violations of the Interstate Commerce Commission with respect to rates or charges may either file complaint with the Interstate Commerce Commission or bring suit in the Federal Court having jurisdiction. They must elect which remedy they will adopt and pursue it to conclusion. Damages may be awarded upon finding of violation of the Act. Penalties are provided by the Act to be inflicted upon carriers or shippers or both for violations of the Act. The penalties for violations of the Act may be either fines or imprisonment, or both, at the discretion of the court.

Legal or Lawful?

A distinction should be made between lawful and legal rates and charges. A lawful rate is one which does not violate any of the provisions of the Interstate Commerce Act with respect to unreasonableness, unjust and unreasonable discrimination, or undue preference or prejudice. A legal rate is one which is duly published, posted, and filed, as required by the Act, with the Interstate Commerce Commission. A legal rate, it should be observed, may be unlawful.

Another aspect of the legal status of rates may be made at this point. A rate or charge may be made by the legislative action of Congress, and a court may declare a rate unlawful. In prescribing rates or charges to be charged, the Interstate Commerce Commission is exercising a legislative function. When it sits to decide whether or not a rate already in effect is or is not unlawful, the Commission is performing a judicial function.

In making freight rates, the carriers are performing a managerial function in which they use their discretion circumscribed by the requirements of the law, and with consideration to the needs of commerce and industry. Few rates are made without reference to the views and requirements of shippers and consignees.

Rate-making is not a mathematical science. Rather, it is an art. It consists of the application of judgment in considering the commercial and transportation characteristics of the goods. The transportation attributes of the goods include:

1. The space occupied by the goods in proportion to its weight—its density;
2. The efficiency with which the freight is able to be stowed in the vehicles used to transport it;
3. The type of container in which the goods are packed, if shipped in containers;
4. The perishability of the goods and susceptibility to damage in the course of transportation;
5. The propensity of the goods to spoil, or to damage other freight or equipment of the carriers;
6. The amount of liability of the carrier in the event of loss, damage, or delay of the shipment;
7. The volume of traffic shipped in individual lots, whether carload or less than carload;
8. The volume of goods that are loaded in the vehicles;
9. The regularity or seasonableness of shipment;
10. The distance the goods must be transported;
11. The direction in which the goods are transported, whether in the same or opposite direction from the preponderance of traffic flow, and the prospect of using the vehicles for return loaded movement;
12. The size or shape of individual packages or pieces, if such as to cause unusual difficulty in lifting, loading, or stowing;
13. The nature and amount of dunnage, bracing, or other protection needed to support or brace the goods in the vehicles;
14. The need of special services in connection with the transportation of the goods; such as, refrigeration, ventilation, or heating services; and
15. The terminal expenses incident to originating or terminating or delivering the shipments.

The commercial characteristics of the goods necessary to be considered in freight-rate making include such factors as:

(*Continued on Page* 72)

Railroads Order New Freight Cars

Class I railroads on March 1, 1947, had 75,358 new freight cars on order, the Assn. of American Railroads announces. On the same date last year they had 39,191 cars on order. Since March 1, this year, many additional orders for freight cars have been placed.

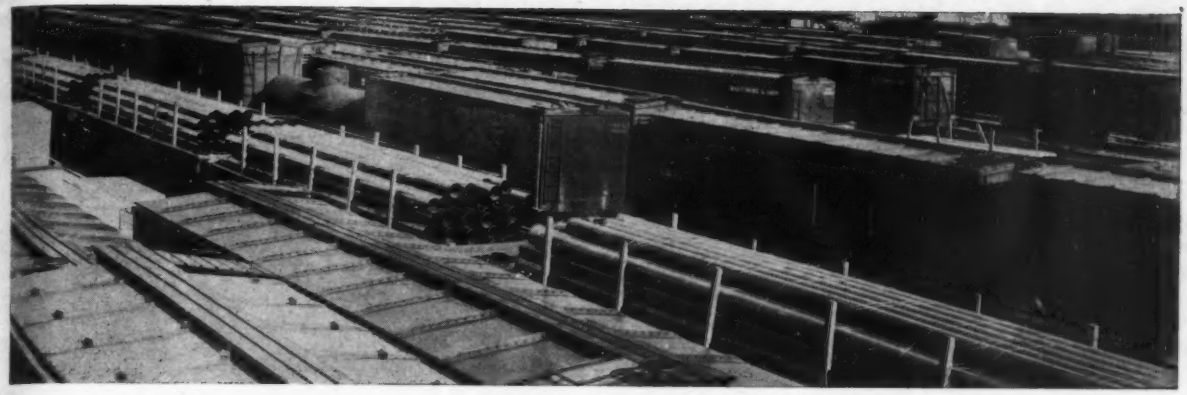
Of the new freight cars on order March 1, this year, there were 23,759 hopper (including 2,397 covered hopper), 4,594 gondola, 594 flat, 30,920 plain box, 5,042 automobile, 9,581 refrigerator, 550 stock, and 318 miscellaneous freight cars.

They also had 680 locomotives on order March 1, this year, compared with 463 on the same date in 1946. The number on order on March 1, 1947, included 45 steam, six electric, and 629 Diesel locomotives compared with 85 steam, six electric, and 372 Diesel a year ago.

Class I railroads put 1,437 freight cars in service in February compared with 2,350 in the same month last year. Of those installed in the past month, there were 509 hopper (including 76 covered hopper), 26 gondola, 28 refrigerator, 224 automobile box, 457 plain box, and 193 flat cars.

They also put 84 new locomotives in service in February, of which 10 were steam and 74 were Diesel. New locomotives installed in February, 1946, totaled seven, of which six were steam and one was Diesel.

The figures given above include only locomotives and commercial service freight cars installed and on order by Class I railroads and by railroad-owned refrigerator car lines. Locomotives and cars installed or on order by private car lines, short lines, or industrial railroads are not included.



A.M.A. Packaging Conference Sessions Discuss:

Preparation of Rail Freight

Featured at the recent American Management Assn. convention in Philadelphia were prominent speakers whose subjects included:

Revision of Rule 41.
Efficient Car Loading.
Economies of Palletization.
Preserving Fresh Produce.
Export Packing.

By JOEL KEITH
Managing Editor

IN the confines of a boxcar, no product is better than its package. This fact was highlighted last month at the sixteenth annual packaging conference and exposition, sponsored by the American Management Assn., at Convention Hall, Philadelphia.

Registrants at the show numbered 19,000 persons, smashing a record of 9,300 set last year. Nearly 200 exhibitors occupied 95,000 square feet of floor space in the Quaker City's huge exposition building.

Manufacturers of shipping containers attracted enthusiastic attention on the exposition floor. Conference sessions devoted to the proper packing of merchandise for rail shipment were heavily attended. Forum discussions, presided over by panels of experts, provoked considerable interest.

Among the most significant addresses delivered was that of W. B. Lincoln, Jr., technical manager, Inland Container Corp., Indianapolis. Mr. Lincoln branded as "fundamentally wrong" the proposals advanced by the railroads to reduce loss and damage claims through a revision of Official Freight Classification Rule 41.

Conceding that sums paid out by the railroads for loss and damage sky-rocketed from $21,000,000 in 1940 to $79,000,000 in 1945, Mr. Lincoln pointed out that everyone is agreed as to the desirability of improving the situation. He maintained, however, that stiffening the provisions of Rule 41, which sets specifications governing the construction and use of fiberboard containers, would result in "increased costs out of all proportion to the losses being experienced," and in further restriction of shipping container production.

"The brewing industry," declared the box executive, "estimated that revising their containers to comply with Sec. 7 of the May 14, 1947 Docket, would have increased their costs $43,340,000 per year. Total 1945 claims on all ale, wine, beer, alcoholic liquors and mineral water amounted to only $5,166,770."

The speaker propounded the theory that the suggested changes would lead to an increase, rather than to a reduction in claims. "Any action which will increase the cost and aggravate the shortage of boxes can have only one result, that is to bring about the increased use of substitute packing materials, the increased reuse of secondhand containers, and the scaling down of specifications generally wherever possible," he said.

Mr. Lincoln offered a counter-proposal to the proponents of a more stringent version of Rule 41. Declaring that 95 percent of claims are made by consignees, and that in most cases, the shipper is "blissfully ignorant of damage claims filed," he called for the setting up of claim procedures to assure that full information regarding all claims would reach the shipper.

"If this were done," Mr. Lincoln concluded, "I feel sure that shippers, their engineers and their suppliers would do everything necessary to accomplish the desired objective of perfect shipping."

Another approach to the claims problem was discussed by A. P. Kivlin, assistant superintendent, freight claims prevention, New York, New Haven & Hartford Railroad Co. In an appeal for

more efficient car loading, Mr. Kivlin described a freight car as "a super shipping container mounted on wheels." Just as the contents of a regular shipping container must be prevented from shifting, so must the shipping containers themselves be prevented from shifting in the box car, the railroad man pointed out.

Lengthwise shocks can be minimized through the use of draw bars provided with effective springs, said Mr. Kivlin. Vertical vibration may be overcome by new types of bolster springs and snubbers now under development.

Mr. Kivlin suggested that cars be divided into compartments by means of crosswise bulkheads. Details of this plan, he remarked, should be worked out by fiberboard container manufacturers and by the carriers.

Another speaker, W. Gordon Bennett, packaging and paper standards department, Anaconda Copper Mining Co., described some of the economies possible through palletization, and cited illustrations drawn from the experience of his own organization. Although he expects general adoption of the unit load to be gradual because few manufacturing concerns are equipped to handle heavy loads today, the packaging expert concluded that "the day is not far off when 5,000 and 10,000 lb. loads will be looked upon as is the 500 lb. load of today."

A. L. Martin, director of research, Western Growers Assn., Los Angeles, called the preservation of fresh produce in transit "an unparalleled challenge to packaging." Until pre-packaged fresh fruits and vegetables can be distributed at a reasonable cost, much food will be wasted, Mr. Martin declared.

Citing figures obtained by the Atlantic and Pacific Tea Co. through experiments at their Columbus, Ohio warehouse, the speaker reported that only 60 percent of the weight of each carload of fresh produce received could be packaged. The remaining 40 percent—on which full freight rates had to be paid—consisted of such items as cauliflower jackets and carrot tops, which were discarded. "Produce consumer packaging must be done at the source; that is, where the products are grown," Mr. Martin maintained.

The techniques of export packing were analyzed by John Mount, manager, marine service department, Insurance Co. of North America. Quoting adverse reports from foreign markets about American packing methods, Mr. Mount said that export shippers should "assign the responsibility for proper packing methods and materials to one person who knows enough about the products to be shipped to be familiar with the susceptibilities or possibilities of damage in transit. This person should be or should become well versed in the application of packing techniques and he should be familiar with the transportation hazards involved," he continued.

"The person or persons so designated then should utilize the services of his insurance carrier, his transportation carrier, and the technical knowledge of the supplier of his packing materials, for they can give him no end of assistance in determining his packing techniques," Mr. Mount concluded.

Applause for Clapp . . . And Poliak, Too

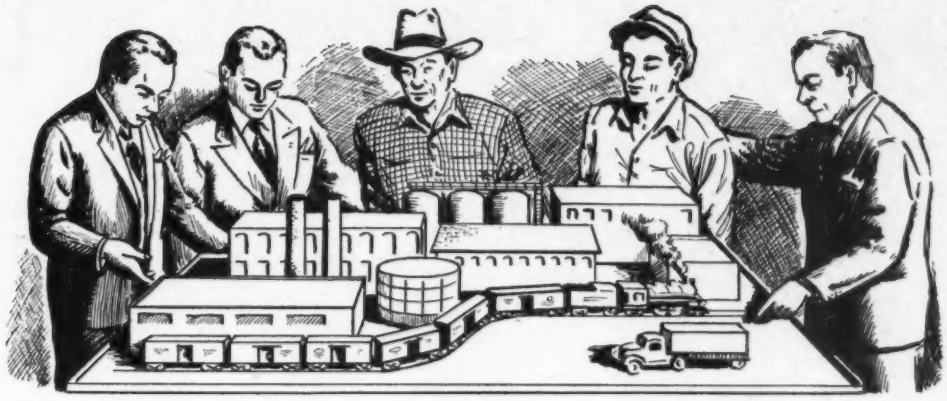
Visitors and exhibitors at the sixteenth annual A.M.A. Packaging Conference and Exposition were unanimous in praising the efforts of T. L. Clapp and Saul Poliak, who manage that convention and several of the nation's other important business shows. Said one exhibitor: "When you consider the thousands of details which must be worked out to present a big-league convention, the smoothness and efficiency of this exposition looms as a real accomplishment."

Transportation

The economies of large-scale production and the division of labor which are the basis of the high standard of living in this country are completely dependent upon efficient transportation. Transportation also provides the arterial system which makes possible the development of sectional, national, and international markets. That is why anything that strikes at the railroads of the nation is calculated to produce economic paralysis, with all its accompanying evils.

New York Times

Some of the 19,000 registrants at the A.M.A. Packaging Conference.



Community Shipping Problems

By A. H. SCHWIETERT

Traffic Director
The Chicago Assn. of Commerce and Industry

THE transportation department of the Chicago Assn. of Commerce and Industry renders many valuable services to shippers. These may be divided broadly into two groups. One group deals with transportation rates and services and includes attention to federal and state legislation. The second group of activities embraces direct traffic service to members. As an example of the first group, the Association is now participating in proceedings before the Interstate Commerce Comn. These hearings involve the relationship of rates on iron and steel articles between Chicago and other producing points located east of Chicago, to similar traffic to points in Illinois, Indiana, Iowa, Missouri and Wisconsin. In proceedings of this character the Association performs services such as offering testimony, exhibits, filing of briefs, etc.; all in the interest of maintaining for Chicago manufacturers a reasonable and equitable rate adjustment.

Another example is the recent filing of petitions with the Interstate Commerce Comn. involving increases in motor carrier rates. A series of increases in these rates were filed by the carriers immediately following the decision of the ICC in Ex Parte 162, which permitted the railroad to increase their rates. In the interest of maintaining an adequate and efficient national transportation system, the Association long has followed a policy of urging that rates of the several forms of transportation should be based upon the characteristics, circumstances, conditions and costs of the particular form, without relation to the rates of other and competing forms of transportation. We believe this is necessary, if the public is to obtain any benefit from the inherent advantages of each of the different types of carriage.

Chicago has many manufacturers and wholesalers who distribute throughout the country and export to foreign countries. All forms of transportation, rail, highway, water, air and pipe lines, are used; and we therefore have a direct interest in maintaining an adequate national transportation system.

Many examples of activities of this character could be presented, but the above will illustrate the general idea and magnitude of the work. During the year 1946, the transportation department participated in approximately 50 proceedings, including hearings before carrier committees and national and state legislative and regulatory bodies.

As an example of the second group of activities, our transportation department in 1946 received a total of 12,000 inquiries. Most of these related to rail and truck rates and routings, although a substantial number dealt with a wide variety of transportation matters. Rate quotations from the department during the year totaled 10,666, or an average of 888 per month. This service has been made available through the maintenance of a file of more than 3,000 effective rail, water, motor, express, freight forwarder and air cargo tariffs.

We consider that one of the most important of our new traffic services is the weekly circulation of about 1,000 copies of our *Transport Comments*. The publication is small and compact, usually only two or three letter-

(*Continued on Page* 80)

Union

By GEORGE F. ASHBY

President
Union Pacific Railroad Co.

LAST year we expended $80 million in purchases and supplies for the maintenance and repair of property and in the operation, including fuel, of equipment. In addition, we ordered 1,500 freight cars at a cost of nearly $6.4 million; 16 diesel-electric passenger locomotives at a cost of nearly $3.2 million and 15 diesel-electric switching locomotives at a cost of $1.2 million.

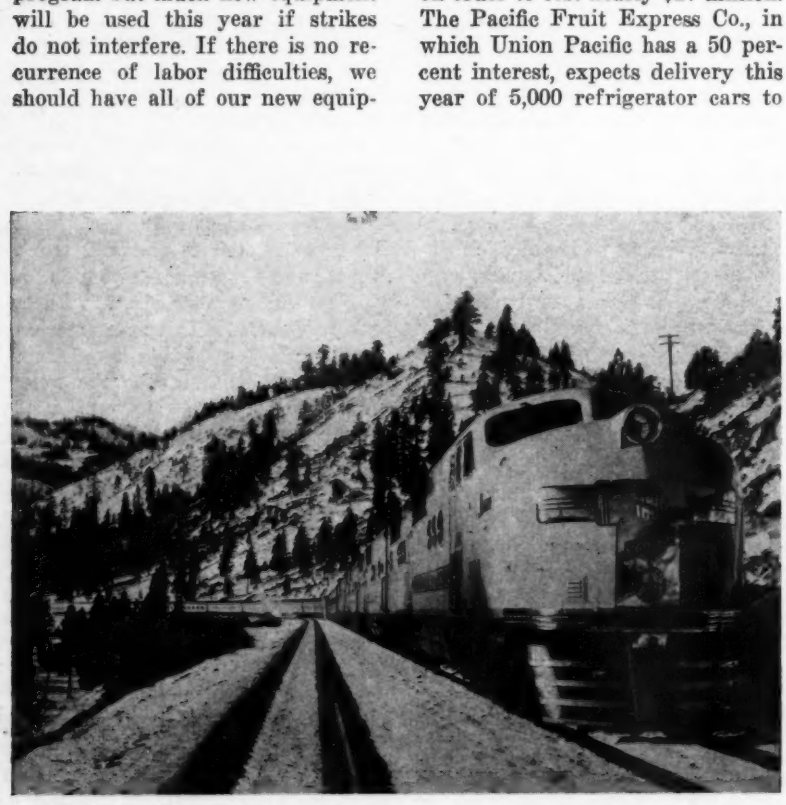
Very little new equipment was delivered last year due to strikes and shortages of materials. This delayed in turn our modernization program but much new equipment will be used this year if strikes do not interfere. If there is no recurrence of labor difficulties, we should have all of our new equipment in operation by the end of the year.

During 1946 we also ordered more than $83 million worth of new rolling stock for delivery this year. This order included 114 diesel-electric locomotive units for freight traffic use at a cost of $16.6 million; 21 diesel-electric locomotive units for passenger traffic at a cost of more than $3.5 million; 29 diesel-electric switching locomotives costing nearly $2.6 million and 80 passenger train cars at a cost of more than $7.3 million.

We also have 3,500 freight cars on order to cost nearly $17 million. The Pacific Fruit Express Co., in which Union Pacific has a 50 percent interest, expects delivery this year of 5,000 refrigerator cars to cost nearly $36.1 million. When the new diesel-electric equipment is delivered in 1947, we will have 178 single diesel units for freight and passenger traffic, consisting of 66 single diesel units for passenger use and 112 single diesel units for freight use together with a total of 141 diesel switch engines.

The railroad in addition to its present 45 single diesel units now in use on passenger trains and its present 112 diesel switch engines, then will have a total of 421,500 h.p. in diesel-electric locomotives. This horsepower will be apportioned as follows: 168,000 h.p. in freight service, 112,500 h.p. in passenger service, and 141,000 h.p. for switching activities. We especially need the box cars and passenger cars we have on order. One of the main problems before railroads is the freight car shortage which will become more and more acute and serious unless some relief, in the form of materials, is forthcoming. Unless we can eliminate strikes and slowdowns, the freight and passenger car situation will be tight for two or more years. But given our new equipment, the railroad will be in a position to meet all requirements in the eleven states in which it operates.

Union Pacific did a greater gross business last year than at any time in its long history, but its net earnings were smaller than in other profitable years. The smaller net reflects increased costs and high wages. While we are grateful for the increased freight rates, nevertheless the fact remains that if the upward trend in expenses continues without an increase in



Pacific's Program

The Union Pacific is preparing to Dieselize its lines from Salt Lake City westward and is expending millons of dollars in new equipment, but its modernization program is being seriously hampered by labor difficulties and shortages in essential materials.

George F. Ashby has been in the railroad business for 41 years, 36 years of which have been spent with Union Pacific. He was born Sept. 3, 1885, at Mt. Airy, N. C., and entered railroad service Jan., 1906. He became associated with Union Pacific in the engineering department in 1911. He served in various capacities from 1911 to 1934 when he became assistant to the executive vice president.. In 1937 he was elected assistant to the president, and in 1941 became a vice president. Mr. Ashby was elevated to executive vice president in 1944 and elected president 1946.

revenues there is liable to be a deterioration, rather than improvement, in the type of service railroads provide. Cost of operations and revenues will have to be adjusted to facilitate maintenance of service.

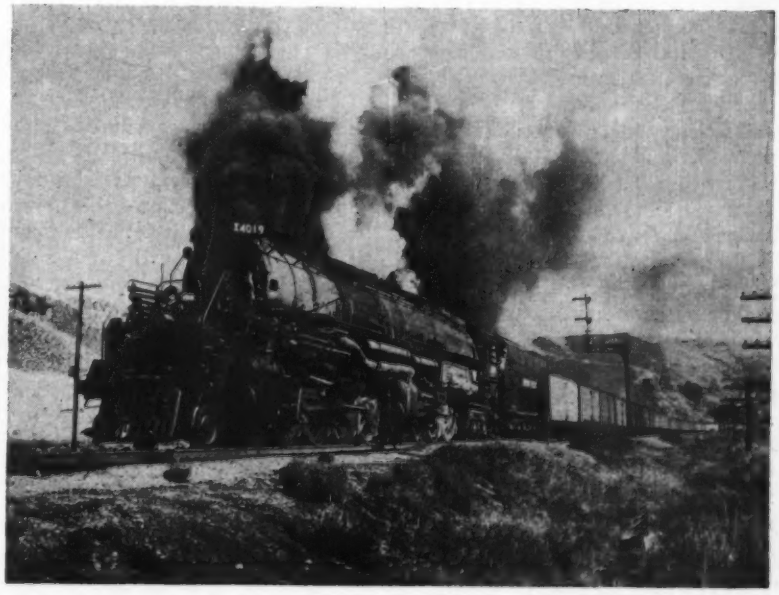
While it is true that our future operations will depend more and more on diesel equipment (some of the new diesel equipment we have ordered will completely dieselize the railroad from Salt Lake City westward by the fall of 1947), we are certainly not discounting the tremendous job that is being done now and will be done in the future by coal and oil burning steam locomotives. We are now operating 600 oil-burning steam locomotives of all classes.

Industry is moving west and Union Pacific intends to foster the resettlement of plants in this area. Our prosperity is dependent upon the west's future. We are constantly carrying on a never-ending campaign to bring industry and prosperity to the west since its prosperity means increased revenue for the railroad. Our welfare depends upon the welfare of the west.

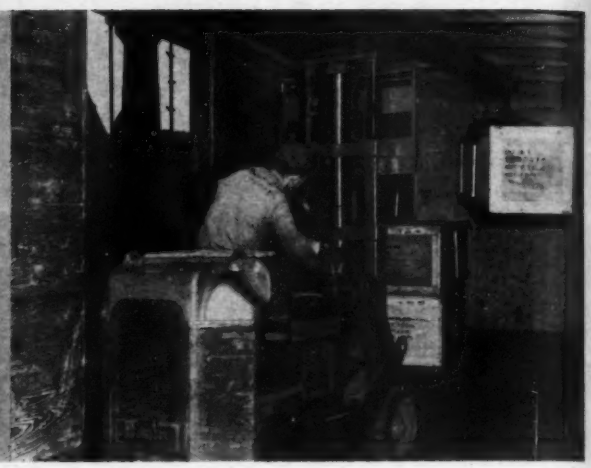
I do not expect the airlines to make serious inroads in railroad traffic. The time when any one form of transportation can absorb others is past. I believe airline competition stimulates traffic for railroads. Traffic breeds traffic for all of the various forms of transportation.

When business warrants and when equipment is available, we will do our best to better our schedules and and give the finest service possible to passengers and shippers. As an example, our road, which was the first railroad to provide streamliner service to Portland, Ore., and the Pacific Northwest, is now the first to place this service on a daily basis. Beginning Feb. 15, the railroad inaugurated daily streamliners between Portland and Chicago, the new service utilizing five complete streamlined trains. Each train consists of a 4,000 h.p. diesel-electric passenger locomotive and 11 modern streamlined trailing cars which include three of the latest type coaches and four of the latest type sleeping cars, a diner and club-lounge.

Given a stabilized economy, free from slowdowns and strikes, there will be no breaking in the tempo of the nation's economy for at least 18 months or two years. The tremendous need for American products throughout the world causes me to believe there will be a continuation of today's high level of prosperity if we can have a stabilized industry.



"First it's a fork truck, then a mobile crane . . ."



"A nine foot boom, or crane arm, is utilized . . ."

Modern Handling Cuts

Loading 15-ft. carpet boxes, weighing nearly a half-ton, into box cars is a difficult and dangerous business . . . but not for the Magee Carpet Co. which has developed a handling technique which cuts loading time in half and eliminates accidents

SERIOUS handling problems abound when millions of pounds of raw materials are received and processed annually at a single mill. That is why the Magee Carpet Co., Bloomsburg, Pa., decided to analyze its materials handling methods with a view to their modernization. As a result of this decision, the company's traffic engineers have successfully developed handling techniques which have resulted in substantial savings in both time and money:

High grade Wilton carpets manufactured under the trademark of the Magee Carpet Co. are valuable and must be protected against the weather and damage in transportation and handling. These carpets are shipped by rail in coffin-like wooden boxes, 2 ft. high by 2 ft. wide by 9, 12, 15 or 18 ft. long. The width of the carpet determines the length of the box. A loaded box weighs nearly a half ton and would seem to present an extremely difficult handling problem. Brawn and muscle, however, are obsolete personnel requirements at the Magee Mills; since the company's traffic engineers have put their "know-how" to work, "box jitters" are a thing of the past.

First, it's a lift truck; then it's a mobile crane! That's the Magee secret. A 9-ft. boom, or "crane arm," is used in conjunction with a pair of grappling tongs and a specially designed "nose". This method enables a standard box car to be loaded to capacity with 30 15-ft. carpet boxes in one-half the previous loading time. Reference to our photographs and sketches will facilitate a clear understanding of this operation.

In the first place, a metal ramp is placed over the space between the loading dock and the door of the box car. The lift truck is driven over this ramp, into the car and backed into the left end of the box car. A dolly loaded with a 15-ft. box is then pushed by hand into the car and turned so that the carpet box is parallel to the length of the car and is situated directly in front of the lift truck. The crane arm on the lift truck hangs over the length of the box and the grappling hook suspended therefrom, is attached to the side of the box and as the mast is elevated, the box is lifted.

Sketch No. 1 shows how boxes are loaded in the right end of the car. Two rows of four boxes are filled in this manner. These rows are marked "A" and "B". No more than two rows are loaded in this end at this time. The end space marked "X" is left empty for the specific purpose of allowing room for lift truck maneuvers as it loads the opposite end of the car. The lift truck is then backed into this space "X" in Sketch No. 1 and the dollies are again rolled one by one into the box car and the crane arm elevates them as before and places them in rows A, B, C, and D. As shown in Sketch No. 2, the left end of the car is loaded completely with four rows of four boxes each. Now the car has been loaded with eight boxes on the right end and 16 boxes on the left end for a total of 24 boxes.

The loading of the remaining six boxes, to complete the 30-box shipment, is easily accomplished by hand. The dolly is rolled into the middle space of the car and the boxes are pushed off the dolly

". . . in conjunction with pair of grappling tongs."

"Engineers have put their 'know how' to work . . ."

Loading Time in Half

by hand. The bottom layer is dropped to the floor. The second layer is slid off at just about the same level as that of the dolly floor. The third layer is lifted slightly from the dolly and forced onto the third level. The fourth box is not stacked on either of the two rows because it is too difficult to accomplish by hand methods and might be injurious to the workers. No bracing or dunnage is required.

The loaded carpet box presents obvious handling difficulties. Because end lifting must be done at disadvantageous leverage, Magee experts are careful to brace the insertion of a two wheel dolly beneath the box. Sometimes these end of their boxes one upon another. This provides room for the boxes are wheeled to the shipping room by hand; on other occasions, the lift truck speeds them there. Normal fork handling, utilizing the hydraulic back tilt of the mast, suffices in the handling of the 9, 12 and 15-ft. lengths. The 18-ft. box, however, must be laid diagonally across the forks to bring the fulcrum, or weight center, closer to the face of the lifting carriage.

On the company's 264 ft. x 16½ ft. shipping dock the huge boxes are stacked flat and almost

By JOHN E. QUAILE

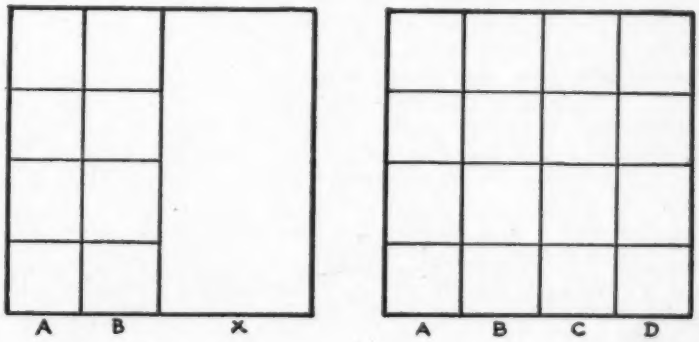
Special Correspondent

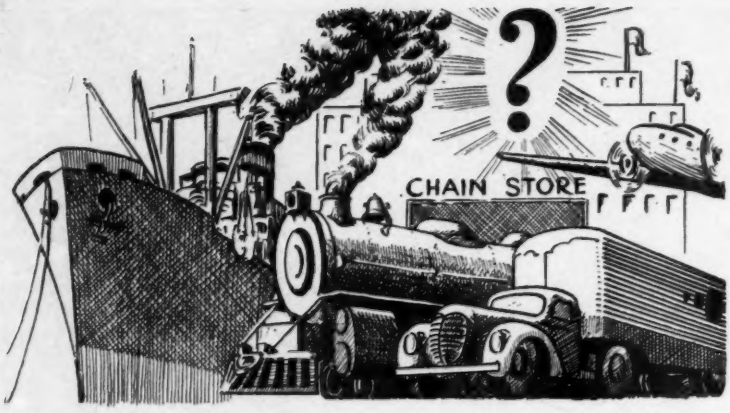
to ceiling height because here the lift truck utilizes the 9-ft. crane arm accessory. Gone in this case is the lift truck's elevator principle of support from below; in its place a boom and a grappling hook is used. Special grappling tongs, suspended from the boom which can be raised and lowered in the same manner as the forks, are applied to the middle of the box so that they obtain finger-like holds along each side. Like a great block of ice the box is securely grasped the moment lifting pressure is initiated. The centered grip of the tongs provides equalized balance, the movement of the lift truck determines the direction in which the box is moved. The crane arm itself it stationary; the "swing" of the crane is directly and accurately controlled by the movement of the truck, thus providing a steady, precise and supervised action. In 14 minutes, ten 15-ft. carpet boxes can be "destacked" and placed on dollies.

The Magee car loading technique is original, yet simple. The lift truck functions in the manner previously described entirely within the 40-ft. long, 9-ft. wide and 10-ft. high boxcar, always working from the end opposite the one being loaded with carpets. Stacking boxes, except for those

(*Continued on Page* 57)

Diagrams of car loading pattern used by Magee Carpet Co.





Inefficient Rail Services Worry the Chains

The current freight car shortage, delayed schedules and "out-of-line" freight rates are forcing many ordinarily "railroad-minded" chain stores to resort to competitive modes of transportation.

By RALPH A. BENTLEY

General Traffic Manager
National Tea Co.

DURING recent months the several hundred traffic managers who constitute the membership of the Chain Store Traffic League have been giving much attention to traffic problems made acute by the critical shortage of rail cars. In general, they are the same traffic problems which the chain stores were obliged to meet during the war period. One step already taken by the Chain Store Traffic League has been a series of largely attended regional conferences, in which railroad traffic representatives were invited to participate. The first conference was held on Feb. 5 in Chicago, and later conferences were held in New York and Dallas. At these meetings rail services for both carload and l.c.l. lots were discussed in the hope that serious transit delays would be remedied and the present car shortage relieved. As a participant in these conferences and also as a past president of the League, I have been deeply interested in proposed remedies. Hence a survey of some of the discussed problems and remedies, as pertaining especially to my company, might be of interest.

The National Tea Co. was founded in 1895 and operates 1,200 retail stores in the larger cities of Illinois, Michigan, Indiana, Iowa, Wisconsin, Minnesota, South Dakota, and North Dakota. Our 1946 volume of sales was near $150 million, as compared with a prewar total of about $87 million. We recently have been handling about ten thousand carloads of rail freight per year, and about an equal tonnage by motor trucks.

The fact that about one-half of our tonnage is by motor truck, as compared with a considerably smaller prewar percentage, indicates that the railroads haven't been able to provide us with the economies and services that we need, since our company has always been favorable toward the use of rail transportation whenever economically possible. On the other hand, only about one-quarter of our present motor freight is by common carriers; and the remainder is either by contract carriers or by our company-owned and operated trucks. We operate 150 motor freight units. A large number of these are equipped for the automatic control of heating and cooling.

We realize, of course, that the railroads are in a critical condition today because of a shortage in rolling equipment. During the war shipping emergency many freight cars were overloaded and not kept in proper repair. Older types of cars, unable to withstand the emergency stepping-up of average loads and increases in road speeds suffered heavy casualties. A present factor hampering the railroads is the increasing congestion of l.c.l. freight on loading platforms and in warehouses. Also, there is an extreme shortage in reliable and trained manpower; this shortage results in rough yard handling of shipment and in operating difficulties.

(*Continued on Page* 78)

What's Demurrage?

Jack McCormack, free lance traffic manager, defines demurrage on the basis of ICC decisions and shows how charges on freight cars can be controlled when sufficient attention is given the problem.

By HENRY G. ELWELL

Traffic Consultant

"DEMURRAGE on freight cars can be controlled if sufficient attention is given the problem. Yet—numerous companies constantly are accruing high charges because they overlook this fact." Jack McCormack, free-lance traffic manager, and John Morris, traffic manager of the Crystal Glass Co., had just finished luncheon in the dining-room of the Hotel Curtis and were discussing the subject of demurrage.

"No doubt about it," replied John, "but, let's consider the fundamentals. What is the theory, the principle, and the purpose, of this factor which is termed demurrage? Is it an ordinary charge, or is it actually a penalty? Whose interests are at stake? I have my own views, but what is your opinion?

"Well," Jack answered, "last week I worked out an outline which covers some of the questions you raise. It consists entirely of citations from Interstate Commerce Commission decisions. They are arranged in a sort of running account. At least that's the way I describe it. Here's a copy. You will note I have not used quotation marks, but each decision is indicated in brackets."

Taking the typed sheet which Jack handed to him, John read the following: The theory of demurrage is that a consignee (shipper) should pay for detention of a car due to and during the period of his inability to receive (or load) its contents. (156 I.C.C. 205).

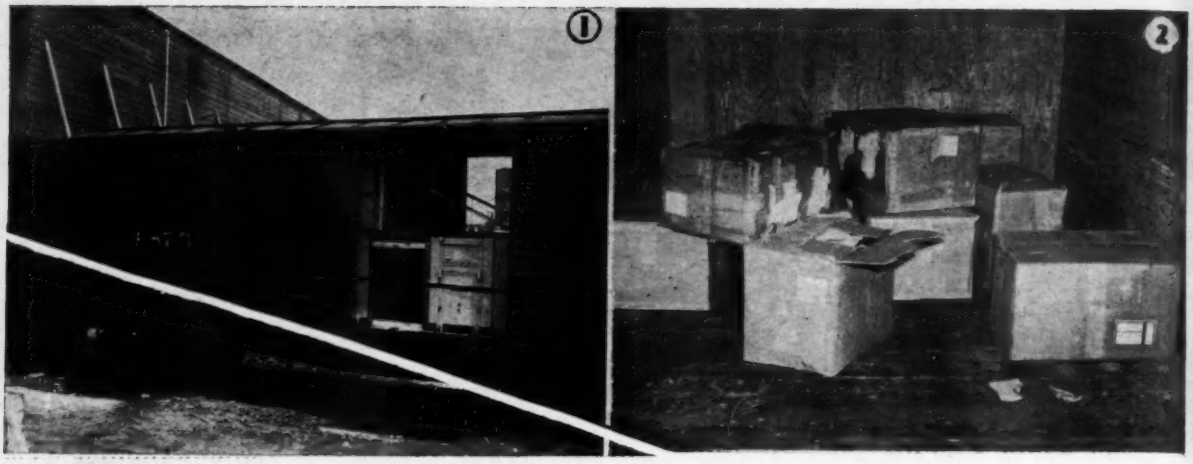
The principle of demurrage (on railroad cars) doubtless had origin in connection with transportation by water. (25 I.C.C. 314). Demurrage is a charge for detention of the cars beyond a reasonable time for (loading or) unloading. (200 I.C.C. 385). Fundamentally demurrage may be said to be a charge for undue detention of cars by shippers. (60 I.C.C. 116).

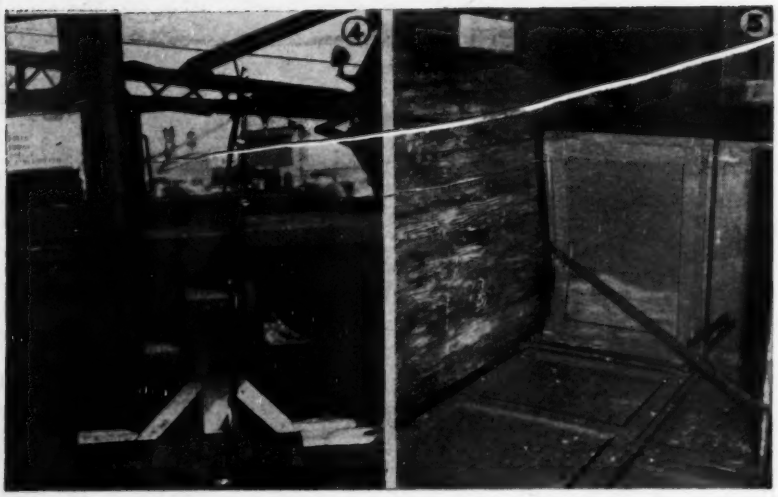
The primary purpose of demurrage charges is to promote prompt release of cars in general interest of public. (88 I.C.C. 301) . . . Demurrage charges are justified on two principal grounds: To protect the railroad in its right to use its equipment in carrying on its business of transportation; to secure for the shipping public the adequate and prompt furnishing of cars. (243 I.C.C. 279). Unlike freight charges, demurrage charges are in the nature of a penalty and are imposed not for the benefit of a carrier, but in order to promote the free movement of cars in the public interest. (66 I.C.C. 393).

A railroad's primary function is to move traffic. A shipper has no legal right to use a car as a warehouse . . . To best serve the needs of the shipping public, a carrier must see that its cars are released within a reasonable time and it may impose (demurrage) charges which will bring about such release promptly. (156 I.C.C. 87). A shipper has no inherent right to detain a car beyond the free time and thus prevent it from being used for transportation by other shippers. (66 I.C.C. 393). The railroad directly, and indirectly the public, are benefited by

(*Continued on Page* 85)

AUTHOR'S NOTE: Names of persons, companies, and places used here are fictitious, but the cases are actual.





By CHARLES L. SAPERSTEIN

President
Glean's Assortments, Inc.
New York

Packing

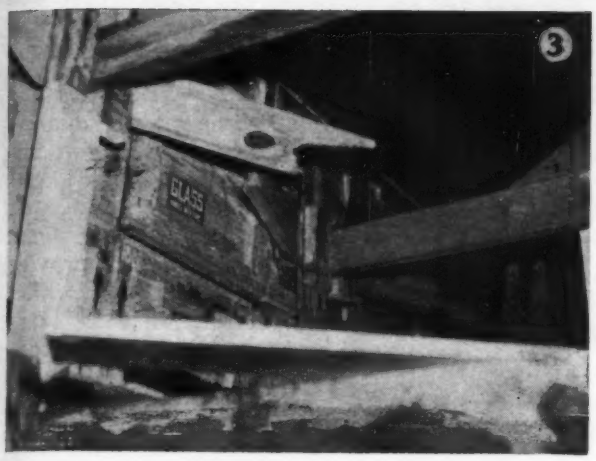
THIS is being written as we witness another drive for a Perfect Shipping Month sponsored by the Shippers Advisory Boards cooperating with the Assn. of American Railroads. There is no question but that the aims and purposes of a campaign spotlighting the needs and means of proper preparation of rail freight are highly commendable and timely. However, a discussion with leading traffic men of prospects for a successful drive reveals that none is so sanguine as to expect a perfect shipping record within his own organization for a great many months to come.

There is a wholehearted desire to implement the campaign with real teeth so that there will be less loss and damage to rail cargo. But the handicaps simply are too great. Shippers are faced with at least two handicaps which are nationwide in scope. These two major obstacles affect every industry and tend to prevent good shipping records. While they are not entirely insurmountable, they are in part responsible for the fact that shippers are compiling an even greater volume of rail claims than grew out of the hectic period of war shipping. These two obstacles, while they both have many ramifications, might be summarized briefly as 1. The paper pulp shortage. 2. The acute shortage of rail freight cars.

Later we will discuss the effects of these two shortages and what can be done by shippers to anticipate and counteract their tendency to cause loss and damage. First, it is important to point out that campaigns such as Perfect Shipping Month (reaching widespread into all of industry and dramatizing the cause and effect of poor preparation) can make important headway despite major obstacles. Two rather important gains have already grown out of the Perfect Shipping Month campaign.

The first of these tangible gains is a growing realization that the problems of good shipping are the concern of top management. Loss and damage cannot be prevented merely by reprimanding or replacing the shipping clerk every time there is a shipping failure, and continuing to supply the shipping room with the same faulty containers.

If the campaign had no other effect than to encourage top executives not only to visit packing and shipping facilities, but actively to consider the problems inherent in a program of safe shipping as well, it has more than justified its efforts. No less important than the problems of accounting, finance, advertising, selling and production is the undertaking of delivering merchandise in perfect condition. Perfection cannot emerge from a situation where the transportation manager and ship-



Key to Photographs

1. In addition to a proper container, the safety of rail freight is dependent upon adequate shoring, bracing, and strapping.

2. The serious shortage of paper pulp is affecting the quality of many shipping containers.

3. Shoring and bracing can become a liability, rather than an asset unless properly placed.

4. Because floor boards of the flat car supplied were worn, it was decided to supplement shoring and blocking of this equipment with steel cable and turnbuckles.

5. Although the manufacturer stencilled this box "reusable," it was too fragile to withstand strapping pressure.

The shipper is confronted with a realistic situation. Receivers are pressing for goods. The transportation office often accepts whatever cars are available, without complaint. Nevertheless, "perfect shipping" need not be forgotten. This article recommends specific steps for the improvement of shipping containers.

For Rail Shipment

ping foreman have no effective and direct voice with management.

A second and no less valuable gain is the growing practice of notifying the shipper of damage or shipping failure, no matter how slight or how definitely it appears to be a claim against the carrier. The shipper who is in the dark about the unsatisfactory status of his goods will continue to make the same mistakes, or will continue to fail to bring pressure upon carriers to render better service in transit and at transfer points.

In the past many shippers have used faulty containers or containers too weak to withstand the shocks and pressures exerted in rail transportation only because receivers in distant points never bothered to give a clear-cut picture of what was happening.

Perfect Shipping Month has given many receivers the understanding that much can be gained through cooperative exchange of information. During the war, transportation officers and cargo inspectors at all military installations and war plants were schooled in the practice of issuing an unsatisfactory arrival report to cover every type of damage or shipping error uncovered. Such reporting proved to be most salutary and it was extended to cover even stencilling and marking errors.

The report should be clear, concise, and it should give an accurate picture of the fault. If the damage is sufficiently serious, it is worth the investment necessary to have a photograph or two made, so that the shipper can visualize more readily the inadequacy of his preparation. For those shippers on the receiving end of a damaged arrival report, it should not be an opportunity to censure some lone shipping clerk, but rather an inspiration to make a serious study of shipping methods.

Let us return again to the matter of shortages which will confront all shippers for months to come. The continuing pulp shortage has prevented paperboard box manufacturers from delivering containers of merit, with very few exceptions. Carriers have almost had to shut their eyes to Rule No. 41 which theoretically establishes container standards. Cartons, supposedly of adequate strength for shipping according to carrier's specification, and so marked, often do not support simple tiering in plant or warehouse, but crush under their own weight. It goes without saying that merchandise in containers of this quality is not going to arrive at destination in satisfactory condition.

As long as the pulp shortage is acute, shippers must expect varying quality in all paper-board boxes being delivered today. What can be done to remedy the situation in the face of a realistic situation? There are several things to be considered:

1. Seal flaps with heavy carton glue.

2. Add or increase metal strapping.

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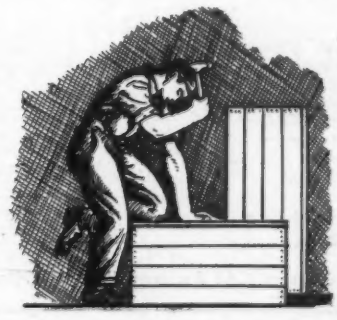


Certified airlines were operating 587 planes, with an annual cargo capacity of 750 million cargo ton-miles, as of Sept. 1, 1946. At that time, 552 planes, capable of providing an additional 1.2 billion annual cargo ton-miles, were on order or in process of conversion.

Our Aircargo Capacity

By JOHN H. FREDERICK

Air Cargo Consultant

IN considering the part certificated airlines are ready to play carrying potential air cargo, we must keep in mind present and known potential unused plane capacity figured on the basis of the aircraft now operating, on order, and in process of conversion. This capacity is shown in the accompanying Table I. On Sept. 1, 1946, the certificated airlines of the country were operating 587 planes of various types. This equipment had an annual cargo capacity of over 750 million cargo ton-miles, assuming a 70 percent passenger load factor. At the same time the airlines had 552

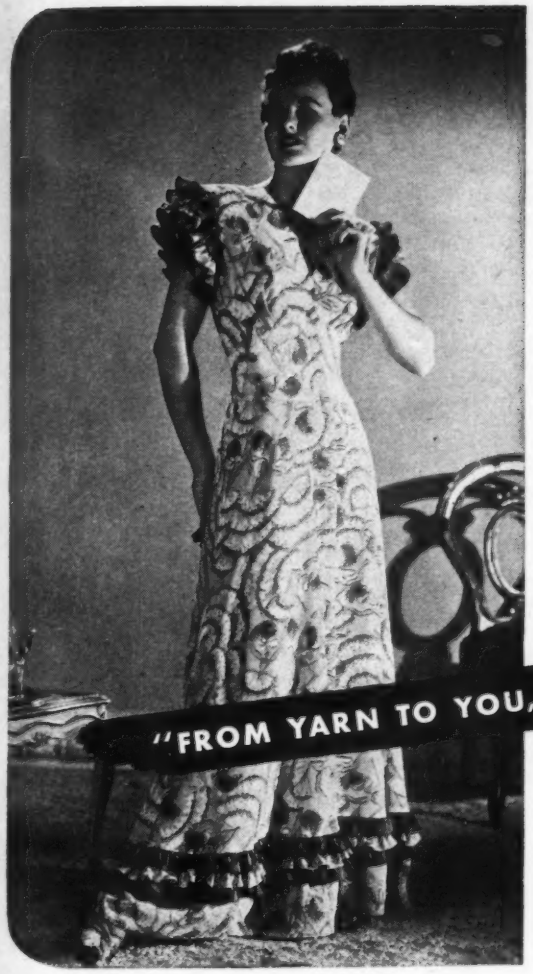
(*Continued on Page* 40)

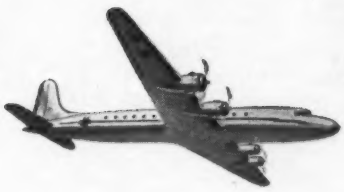
TABLE I

CARGO CAPACITY OF AIRLINE FLEETS IN SERVICE AND ON ORDER, SEPT. 1, 1946

	Aircraft in Scheduled Service			Aircraft on Order and in Process of Conversion		
		Annual Fleet Ton Mile Capacity at a 70% Passenger Load Factor			Annual Fleet Ton Mile Capacity at a 70% Passenger Load Factor	
Certificated Airline	Number	Limited by Space Available (000)	Limited by Weight (000)	Number	Limited by Space Available (000)	Limited by Weight (000)
American Airlines	110	164,339	190,200	189	424,063	481,457
Braniff Airways	26	31,833	37,991	29	56,334	60,063
Chicago & Southern	16	19,692	24,617	14	26,908	34,443
Colonial Airlines	16	13,787	13,787			
Continental Air Lines	14	13,692	13,692	5	7,619	10,302
Delta Air Lines	24	31,223	39,843	10	17,934	23,006
Eastern Air Lines	63	69,523	83,069	48	108,282	186,555
Mid-Continent Airlines	13	9,494	9,494			
National Airlines	14	16,687	22,845	8	23,934	20,924
Northeast Airlines	12	14,769	18,463	2	1,618	1,618
Northwest Airlines	32	42,755	55,070	56	65,969	70,181
Penna.-Central Airlines	46	67,751	87,455	50	113,586	132,343
Transcontinental & Western Air	84	104,332	142,554	24	70,261	161,993
United Air Lines	90	119,383	146,475	94	221,044	252,321
Western and Inland Air Lines	27	40,393	52,708	23	73,911	77,982
Total	587	759,653	938,263	552	1,211,463	1,513,188

Sources: CAB Recurrent Reports, 1946; CAB Docket 810 et al U-22; United Air Lines Engineering Department.





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Railroading IS Materials Handling

By MATTHEW W. POTTS

Materials Handling Consultant

THE railroads of the United States are so far ahead of railroads in any other country in equipment, trackage and motive power, that foreign governments, engineers and railroad workers constantly are studying our methods and equipment.

Occasionally, we examine some particular phase of railroading and find that it is not as modern as we would like it to be. For example, the railroads are criticized for their lack of initiative in connection with materials handling. This is particularly true about the handling of l.c.l. freight and the facilities for handling shippers' freight at freight houses and terminals.

However, when one looks at the railroads as a whole, it is apparent that railroading is materials handling, and all railroad equipment is materials handling equipment used for the transportation, lifting and shifting of all types of materials, in bulk, in packages and for distances from a few miles to thousands of miles.

Let us, for the moment, forget the rolling stock of the railroads, and consider their other handling problems, and the types of materials handling equipment they must use.

We believe it would be safe to say that there is hardly a piece of materials handling equipment that the railroads do not use somewhere on some line within the United States. In the building railroads, it is necessary to use graders, bulldozers, various types of boom cranes, spreaders, ballast unloaders, gang cars, drag lines, portable welding equipment, jack hammers, hydraulic jacks, and many other pieces of equipment. For the building of railroad equipment, and for the maintenance of cars and locomotives, railroad shops and warehouses are equipped with electric hoists, monorail cranes, fork trucks and pallet systems, storage racks, tractor trailer systems, electric magnets, various types of grabs and buckets, many special slings and hooks for use on cranes.

Experience obtained by railroad engineers in their own warehouses, maintenance departments and shops with respect to materials handling should be applied to the handling of all categories of freight.

For the maintenance of ways, many special pieces of materials handling equipment are used. These might consist of units such as power-operated work cars for transporting the workers to the job, or special spike pullers used in re-laying rails, or power-operated rail layers, special ballast cribbing machines, or continuous digger and ballast digging and tamping units.

All of this equipment very seldom is seen or recognized by shippers. That is why the railroads are thought to be backward in their handling methods.

(*Contitnued on Page* 47)

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YALE WORKSAVER

Urban Traffic Congestion

Slow and tangled traffic, and the lack of commercial parking space in urban areas are important factors in the cost of modern distribution.

By FULLER ROSS
Special Feature Writer

BEFORE the last war, the flow of street traffic in urban communities moved at the rate of approximately three miles an hour. The average parking limit of one hour in such areas greatly interfered with commercial parking, the unloading and loading of commodities, and, in some instances, the cost of merchandise delivery by truck in such districts rose as high as 34 percent in 10 years, due almost entirely to traffic congestion and delays in getting the load on and off the unit. Yet, at that time there were only about 27 million motor vehicles in this country as compared with the 50 million anticipated within the next few years.

Slow and tangled traffic, and the lack of commercial parking space in urban areas are important factors in the cost of distribution in this country. The Eno Foundation for Highway Traffic Study reports that the primary cause of all urban traffic difficulties in the past has been caused by the fact that factories turn out cars and trucks much faster than streets and roads can accommodate them. Many postwar traffic control programs are based on elimination of a large percentage of private cars from congested areas.

If this could be done, commercial trucking and the whole distribution picture in urban areas would change for the better. But there are several factors to be considered in this connection. Surveys list among other correctives to the traffic problem the following:

1. Wider streets and ramps.
2. Improved traffic signal systems (electronic).
3. More and larger parking spaces, especially near transit terminals.
4. Better parking regulations (curb).
5. Increased facilities in structural and underground parking.
6. Improved transit facilities to win more private car owners over to transit travel at least into and out of congested areas.
7. Intensified driver-pedestrian education and control.

In connection with the objective of getting more private car owners to use public transit facilities, at least when on casual business, the growing number of trackless trolley coaches in our towns and cities is said to be an important contribution for the relief of traffic congestion. Tests, it is claimed, show that the trackless trolley coach is safer, easier to control, loads and unloads at the curb, is faster and can by-pass obstacles.

Motor vehicle distribution in this country is efficient only to the extent that the cost per ton mile is kept within reasonable bounds. Only when traffic moves with fair speed through an urban area can a truck driver cover ground rapidly enough to keep his per mile costs within the safe limits.

The private car has always been the bugaboo of commercial hauling, and will always be unless some means is found of reducing the number of them on our streets. The average motor car carries 1.7 persons and can transport only 2,600 over a single lane, past a given point in one hour. On the other hand a trackless trolley coach, street car or motor bus can

(*Continued on Page* 67)

Letters . . . .

(*Continued from Page* 14)

studies. 14. Materials handling studies. 15. Reviewing distribution methods and costs. 16. Determining best warehouse locations. 17. Analyzing locations for new plants. 18. Comparing raw material sources from transportation viewpoint. 19. Situation survey of present practices.

III. ADMINISTRATIVE:

20. Securing, retaining and preventing changes in rates or classifications. 21. Securing new rates and classifications. 22. Negotiating carrier agreements regarding demurrage, credit, transit, weight, side tracks, etc. 23. Negotiating truck and cartage agreements. 24. Negotiating ocean space contracts. 25. Leasing private rail cars. 26. Chartering water carriers. 27. Negotiating transportation insurance. 28. Negotiating warehouse and distribution arrangements. 29. Contact and cooperation with carrier staffs and officials. 30. Contact and cooperation with local, state and national traffic associations. 31. Representation on industry traffic groups. 32. Preparing classification schedules. 33. Making rate studies, tables, charts and maps. 34. Formulating working plans for better practice. 35. Establishing standard practice based on approved working plan. Supervision or consultation re: 36. Construction and maintenance of plant side tracks. 37. Intra-plant materials handling and transport facilities. 38. Company trucks. 39. Packing, marking, weighing and shipping. 40. Car ordering, inspection and preparation. 41. Car loading, checking, bracing and sealing. 42. Preparation of shipping and receiving papers. 43. Car records and demurrage control. 44. Receiving, inspection, unpacking, checking and disposition of inbound shipments. 45. Plant storage. 46. Express and parcel post shipping.

IV. OPERATIVE:

47. Selecting routes and quoting rates. 48. Maintaining tariff files. 49. Expediting shipments and securing special movements. 50. Tracing and recovering astray and delayed shipments. 51. Diverting and reconsigning shipments. 52. Auditing freight and other transportation bills. 53. Collecting overcharges. 54. Preparing and collecting loss and damage claims. 55. Negotiating settlement of transportation insurance claims. 56. Checking demurrage records for close control. 57. Securing adequate carrier service; arranging for special services. 58. Booking ocean cargo space. 59. Handling company owned and leased rail cars. 60. Installing and maintaining transit records. 61. Arranging for passenger accommodation. 62. Arranging pool cars and consolidation of L. C. L. shipments. 63. Maintaining rate and route files in interested departments.

V. REGULATORY PRACTICE:

64. Assembling evidence for rate and service adjustments. 65. Filing informal, formal and special docket complaints. 66. Preparing and filing briefs in traffic cases. 67. Intervening in rate and service cases. 68. Participating in loss and damage court cases.

Air Cargo Capacity

(*Continued from Page* 34)

planes on order, or in process of conversion, which when placed in service would be able to accommodate 1.2 billion annual cargo ton-miles. These astonishing capacity figures are predicated upon the average density factor of 10 lb. per cu. ft. for cargo but if more compact traffic can be carried, the airline fleet of last September could carry 938 million and the other planes soon to be in service, 1.5 billion annual cargo ton-miles with 70 percent of their passenger capacity still used at all times. This is roughly equivalent to all the railway express traffic carried in a fairly normal year and to about half of the railroad l.c.l. terminal to terminal traffic in a similar period.

Mail or Express

Many of the aircraft in process of conversion in Sept., 1946, as shown in the table, have since been placed in service. This is particularly true of the DC-4's and the DC-3's. The DC-6's will be in service to some extent before the middle of 1947. The DC-4 planes, equipped with 46 seats, will utilize, at 100 percent passenger load factor, less than 60 percent of their total available pay-load capacity thus enabling them to carry a great deal of freight, or mail, in space which could not under any circumstances be used for passengers. This weight capacity will have to be used for cargo, mail or express which is why so many of the airlines are insisting that all their traffic, except under exceptional conditions, will have to be carried on the same planes. It is why some of them are protesting against the idea of separation of freight from mail or passengers. It is why some of them will not favor separate cargo airports even at larger cities.

Added Cost

As a matter of fact, there is no reason why all cargo will have to be carried in planes devoted entirely to that purpose. Particularly is this worth consideration when one examines the facts presented in this study showing the cargo space available on the equipment the certificated airlines intend using in their combination service. Moreover, it has been shown that the additional cost to the larger airlines of carrying cargo in combination aircraft is in the neighborhood of but 2.1c. per ton-mile and it has been revealed by air cargo experience to date that a very high proportion of the potential air cargo will be of such size and weight and will be moving at such times as to make it entirely practicable to carry a considerable proportion of it in combination aircraft.

The airlines have been operating at abnormally high passenger load factors since 1941, but the trend is now downward and will be accelerated in that direction as more converted planes are put into service and when larger equipment on order is delivered. This means more space available on passenger planes for cargo and more DC-3's and DC-4's, outmoded for passenger traffic, either abandoned or converted to cargo usage. This is why the next year is going to bring about a big change in the air cargo situation. Up to now the scheduled airlines have only been scratching the surface of the cargo potential. Now they are going after cargo in a way to make it really their business and a very important part of their total traffic. The airlines are ready with sound plans to develop air cargo to its fullest potential and intend to reduce costs and rates wherever and whenever possible.

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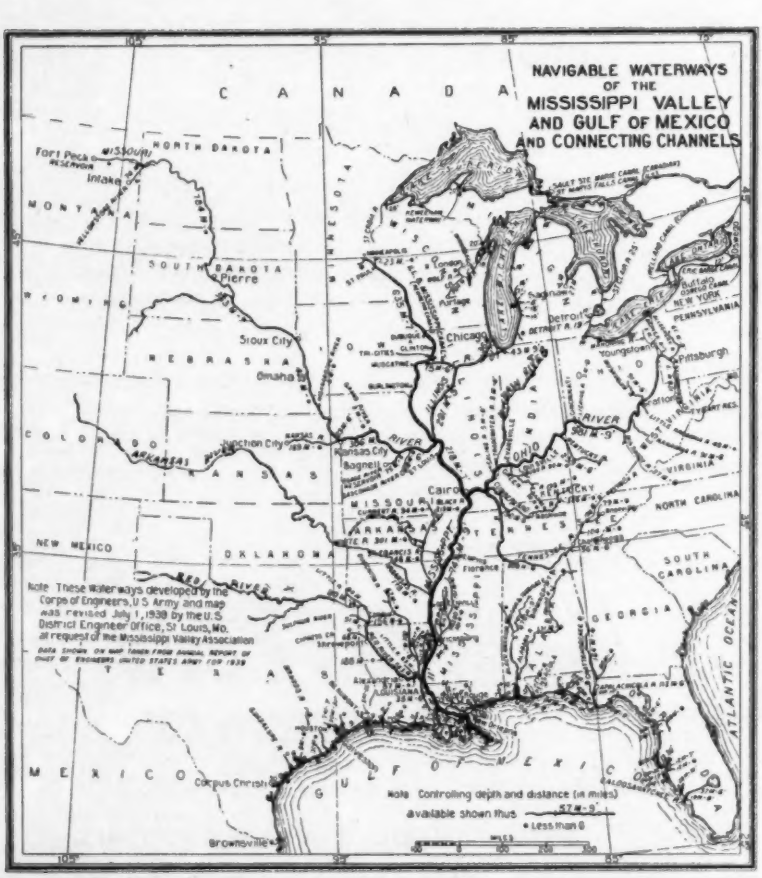
Transportation

The steel industry is the basis of our economic life . . . The next 10 years, according to C. M. White, president, Republic Steel Corp., may see the end of open cut iron ore mining in the Mesabi Range and the enforced migration of industry from the "industrial heart" of America to eastern seaboard and gulf points for utilization of sea-borne imported high grade ore . . . The canal system discussed in this article would help avert this possibility by providing arteries for the economical flow of raw materials, the life blood of industry.

THE purpose of transportation is to transfer at the lowest possible cost the raw materials and manufactures produced in one locality to people in other localities. While it is true that manufacturing industries which contribute directly to our national wealth tend to follow the courses of rivers, waterways, railroads and highways, we must never forget that transportation in itself *increases* the price of goods while adding nothing whatever to their intrinsic value. Since transportation affects consumption, its costs are the legitimate concern of our people as a whole. Considered on the basis of the greatest good to the greatest number, the inherently cheapest means of transportation is the best, whether this transportation, is accomplished by rail, highway, air, water or pipeline or by the combination of any, or all, these modes. A freight tariff frequently is no measure of the transportation service rendered. It too often is the product of numerous economic and political factors, not the least important of which are the powerful competitive pressures exercised by entrenched interests.

All of the existing modes of transportation with the exception of the pipelines are benefiting, or have benefited in the past, by subsidies in one form or another. Without the aid of these subsidies and the inducement they offered to the pioneering spirit of free enterprise our ramified and diversified transportation system would not exist. Let us consider for a moment the magnitude of this national system. According to Rep. Clarence F. Lea (Cal.), chairman of the House committee on Interstate and Foreign Commerce, our nationwide transportation facilities comprise:

1. More than 230,000 miles of railroad operated by 1,302 railroad corporations, of which 136 are Class 1.
2. Approximately 30,500 miles of navigable inland waterways, normally served by 11,000 vessels of draft and more than 8,000 miles of coastal and intercoastal water routes.
3. About 3.5 million miles of highways of all kinds of which nearly 1.5 million miles are hard surfaced. These highways are used by 26,000 trucking companies and 1,500 motor bus companies, operating more than five million trucks and busses.
4. More than 3,000 airports serving approximately 35,000 miles of lighted airline miles.
5. Approximately 125,189 miles of oil pipelines, exclusive of the "Big Inch" and the "Little Big Inch."

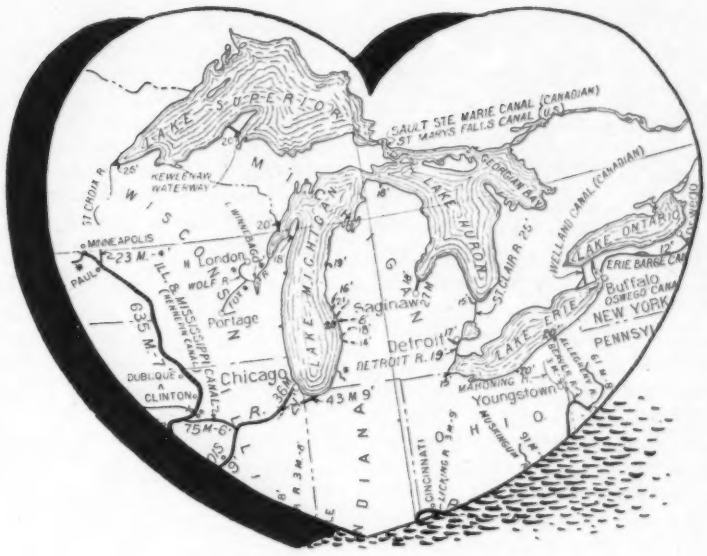


...its Worldwide Problems

Part 2

By HENRY D. CLEVELAND

Chairman of the Board
John S. Emery & Co., Inc.
New York and Boston



The Industrial Heart of America

Each of these transportation agencies has demonstrated its ability to render great service to the people as a whole despite the fact that each has been developed without properly coordinating its activities with each, and all, of the others. Since, as I said before, transportation adds to the price of goods, its costs are a social burden which must be borne by the people who properly are interested only in overall economies. True economy can be brought about only through complete coordination and until this is accomplished there can be no "handsoff" policy on the part of the public. Unless this coordination is voluntarily effected by free enterprise, it must be effected by governmental edict. The "dog-eat-dog" point of view, long prevalent in Congressional and transportation circles, is not only denying adequate returns on transportation investments but is contributing, in no small measure, to our "boom" and "depression" history.

It has been suggested that since the granting of subsidies in one form or another for the promotion of highway, water and air transportation affords a competitive advantage over the "unsubsidized" rail carriers, all such subsidies should be discontinued. The carrying into effect of such a program is unthinkable for various sound economic reasons and because it would sound the death knell of free enterprise in the field of transportation. It would be as shortsighted and as disastrous in the end as would have been the result of withholding governmental aid to the railroads through the RFC when the roads were forced into bankruptcy. Their present comparatively sound position can be attributed not to war earnings but to this governmental aid which was secured at such low interest rates as to constitute a form of subsidy. It is not my intention to enter into any controversy on the subject of subsidies. I wish merely to point out that any overall transportation policy must be based on recognition of the fact that the costs of transportation properly are a concern of the people as a whole and therefore transportation is eligible for public aid, direct or indirect, for its overall improvement and for the preservation of free enterprise.

I propose to discuss in this article one vital phase of transportation, that concerned with the movement of goods by water. Rivers and waterways antedate man and throughout the ages have served his interests. An adequate system of canals and inland waterways, properly coordinated and integrated with other existing means of moving goods in commerce, is an essential part of any overall transportation system. At the moment our national program for the improvement of our waterways and harbors and for the control of floods and irrigation is threatened by the apathy and downright stupidity of many of our elected representatives in Congress. We are confronted by conditions of uncertainty and fear, by the very real threat of planned economy, and by the spectre of communism.

Let us consider for a moment the means at our disposal for improving inland water transportation. We have emerged from the

recent world struggle with new resources, both physical and moral, and with the grave responsibilities attached to our thankless and costly role of world leadership.

Our physical assets, appraised in the light of our worldwide transportation needs, include the following:

1. A huge navy which must be kept intact for another 10 years at the least; for without such a navy to stiffen our backbone we cannot hope to fulfill our new and thankless task of world policeman.

2. More than 50 thousand invasion ships and barges of various types, costing approximately 10 billion dollars. These craft are not only important naval auxiliaries but, in many cases, can be converted into capital assets through the development of peacetime uses.

3. A merchant marine of more than 50 million tons costing more than 18 billion dollars. We cannot afford to repeat our mistake of World War I and permit surplus ships to be sold for scrap. In view of the important discrepancies between American and foreign construction and operational costs arising from our higher standards of living, only a clearly defined long-term maritime policy, *based on national security,* can preserve our merchant marine as a capital asset in our economy. The greatest navy and air force in the world are useless without the necessary supply of cargo ships.

4. Concrete evidence in many forms of the skill and "know how" of the engineering divisions of our army and navy and of their mastery of the science of "logistics" which, like peacetime distribution, is concerned with the movement of raw materials and finished products from the point of origin to the point of ultimate consumption or use.

In addition, we must include among our assets certain public projects started in prewar days because they tie into our transportation plan as unifying factors. First, of course, is our Panama Canal, built at a cost of 525 million dollars. Second, is the following group of public activities all of which add to the capital value of our farms and soil: 1. Swamp control and irrigation. 2. Reforestation. 3. Prevention of soil erosion. 4. Flood control. 5. River and harbor works. 6. Power projects, costing to date approximately 6 billion dollars. Third, is our Tennessee Valley Authority, completed at a cost of 668 million dollars. In connection with this project, a 650-mile canal system with a channel of sufficient depth to accommodate vessels of nine ft. draft has been completed. Many of our wartime invasion craft, converted to peacetime use, can be used on this waterway as well as on the Mississippi, Missouri and Ohio Rivers. Fourth, is our already existing system of ramifying canals, waterways, rivers and lakes and terminals. All of these resources are capital assets. It requires little creative imagination to visualize the overall economies that could result if these resources and half-completed projects were coordinated into a master transportation plan instead of being considered as isolated, unrelated projects of only sectional interest.

If in our new and thankless task of world policeman we eventually should see fit to revive the selective service law, requiring our youth to undergo a year of military service, why can we not convert this reservoir of manpower into a capital asset. Congressman James W. Wadsworth, who has been nicknamed "Mr. National Defense" by the *Saturday Evening Post,* has suggested that after three months of basic training in the south and southwest during the winter season, military selectees be encouraged to volunteer for training in the construction activities of the army and navy engineering battalions.

Under such a plan, a defense organization could be set up under the Secretary of Defense. This body could act as the coordinating unit for all of the related activities previously discussed equipment, still overseas in vast quantities, could be returned to this country and put to work. We could begin at the headwaters of our rivers and streams with a view to controlling our rains and getting our worn out farms back into production. With the aid of privately operated construction and engineering organizations, this body could construct locks, dams and hydroelectric plants whose output could be turned over to local public utilities for distribution. Such a program should prove of inestimable value in canalizing our inland waterways thereby freeing our rivers from their destructive floods, which are becoming a national disgrace, and making it practical for them to be used as canals on which our landing craft, barges and ships could be put to use.

The Missouri River should be dredged as far west as Sioux City, Ia., and the Ohio River as far east as Pittsburgh, to permit passage of fully loaded vessels drawing

(*Continued on Page* 84)

An Historical Precedent

The Chinese Grand Canal, we are told by Confucious in one of his Books of History, was completed in 486 B.C. and connected the Yangtze and Yellow Rivers, separated by a distance of more than 850 miles. Throughout the ages, it has served in the distribution of food and in the control of floods. For 24 centuries it has been an integrating and coordinating influence in the life of China, holding her people together despite conquests and invasions from the north similar to those which brought the downfall of the Roman Empire. The present day Chinese, deeply impressed by the work of our government engineers on the Hoover, Shasta, Bonneville and Grand Coulee dams, urged them to undertake a survey of the Yangtze River. This survey was undertaken with a view to flood control and power generation and for the added purpose of making the Yangtze navigable to 10,000-ton ocean vessels as far inland as Chung-King, a distance of 1,300 miles . . . On the principle that what is good for the goose is good for the gander, it is in order for our engineers to undertake similar surveys of our Mississippi River and its tributaries and to lay out a deep water route connecting the Great Lakes and the Gulf of Mexico. The completion of such a project would enable us, among other things, to ship goods from Chicago to Chung-King, direct by water, 12 months in the year.

HENRY D. CLEVELAND

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Let's Take the Glamour Out of Airfreight

Air transportation would benefit if the lines would agree to base tariffs on ton-mile costs for the shortest and longest air hauls and would agree to the use of Great Circle mileage between airports and of standard highway mileage for all ground pick-ups and deliveries.

Part 3

By ROBERT F. ODELL

Sales Manager

George E. Dewey & Co., Hartford, Conn.

THE airfreight tariffs of all the airlines are tailored to fit the needs of the airlines. Very little consideration is given the shipping public. The airlines, by so constructing their tariffs, defeat the end they are trying to obtain. Rates published are airport to airport rates and do not include any of the super service which the airlines claim to give, and which they should give in proportion to the cost of their services. Let's pull a typical tariff apart to find out what is bad about it and then see if we can suggest any remedies.

The airlines have decided that the only way to publish a tariff is by using airport to airport rates and to list cities served in a scale number chart. The formulation of a scale number chart is comparatively simple when only a few stops are listed. It gets out of hand however when the numbers assume even moderate proportions. Where "n" is the number of stops the formula is $\frac{n(n-1)}{2}$. With four stops you then have a total of six scale numbers. Increase the number of stops to 50 and the scale numbers increase to 1,225. Just adding one more stop on the route then means that you have to add 50 more scale numbers. With 100 stops on a route you will have 4,950 scale numbers to publish. Isn't it possible to conceive of an airline having 200 stations on its route which it wishes to service for airfreight. Think of the possible confusion involved in publishing 19,900 scale numbers for these 200 stops. That is only the first part of the difficulty in such a system. The second part is that it does not allow for free interchange of traffic between airlines. Let's assume a shipper wants to fly freight from A to C, which two points are not in a direct route. There is no service between these points, but there is service on one line from A to B and on a second from B to C. An interline agreement exists between the two airlines and the shipper will be charged for the scale mileage from A to B plus the scale mileage from B to C. This is unfair to the shipper because the mileage he should be charged for is from A to C.

One of the major airlines publish 25 scales for their trans-continental route. There is roughly speaking about 2,500 mi. of cross country route involved. In other words, each scale is for about 100 mi. This is not strictly so, because this airline has taken advantage wherever possible of points which are near the line of one mileage bracket and put them in the next bracket. As a result you have pairs of points, which have sometimes almost 200 mi. difference in distance between them, taking the same scale numbers. On the one hand, you have preferential rates and on the other, prejudicial rates. Incidentally, all the airlines serving New York to Chicago have thrown these two points into a minor rate war by placing them in a preferred catagory. All rates published between these two points are preferential. C. A. B., please note

Is there any way out of this dilemma? Yes. Publish the tariffs on great circle mileages between all airports in the United States. These mileages are already known and will never change. They will

(*Continued on Page* 48)

Handling . . .

(*Continued from Page* 36)

Recently, some passenger terminals have been installing hand-controlled electric storage battery lift trucks for operations in and about the terminals, and more of the baggage type trucks are being equipped with solid-rubber tired wheels and pneumatic tired wheels, to reduce noise. Power tractors are being used to move baggage and other trailers over longer hauls. Only the larger freight terminals, however, really have done any serious studying in connection with the application of materials handling equipment.

However, the larger installations have used modern equipment, such as trailers, tractors, modern lift trucks, overhead chain conveyors for pulling trailers, and small portable gravity and power sections of conveyors for transferring freight from cars to platform.

In smaller freight houses, however—located, let us say in cities with populations of under 200,000, we find that most handling still is accomplished by manual methods and two-wheel hand trucks. Here is the place where the railroads could benefit themselves and the shippers with more materials handling equipment.

This equipment could be used for rapid loading and unloading of shippers' trucks, thereby reducing congestion on the floor and platforms of the freight house, and making it possible to receive more shipments within the working day. For this purpose, more fork trucks, portable cranes, electric hoists, monorail systems, and sections of gravity and power conveyors should be available.

At one time, the railroads installed much equipment at freight houses, such as pillar jib cranes, and overhead gantry cranes. While this equipment has been available for the last 25 years, much of it is seldom used, because it is limited to a fixed position of operation, and is inadequate to handle modern packages. Its greatest limitation, however, is caused by its fixed position. Therefore, the railroads should be careful, on future installations of materials

handling equipment to consider mobile equipment that can be transferred quickly from one location to another as demand requires.

The installation of materials handling equipment at the smaller freight depots will require considerable study, but now is the time for railroads and shippers to start to cooperate and to coordinate their needs. There is no reason why the railroads should be requested to purchase millions of dollars worth of materials handling equipment for possible use by shippers, if shippers are not ready to make improvements in their own handling methods.

When the shipper has created demand for the equipment, we feel certain that the railroads will comply with his demand. The railroads, however, should start now to educate their freight agents, station agents and other freight handlers in methods of materials handling and in the types of equipment which are available.

It would be impossible to write an article on one piece of equipment which would serve everywhere on the railroads, and by the same token, it would be impossible to select one freight station or depot and use it as a pattern or model for all freight stations and freight depots. It is safe, however, to make the assertion that modern materials handling equipment, properly applied to l.c.l. freight handling, would reduce materially the cost and time required for handling, the damage resulting from manual handling, and it would improve operating conditions at depots and terminals. In a number of cases new equipment would make it possible to use the present building facilities without the need of constructing new and expensive additions.

Some railroad organizations are more progressive than others. The same is true regarding materials handling equipment manufacturers. Therefore, the progressive materials handling equipment manufacturer should be careful not to oversell the railroads on his particular type of equipment unless it actually can bring about savings to the railroad and to the shipper.

Now is the time to prepare for the future. Experience gained by the railroads in operating their own storage warehouses, maintenance departments, shops, etc., with respect to materials handling equipment, should be reviewed. The railroads' operating engineers should take this experience and apply it to the handling of freight of all types. This would put the railroads in a position to make suggestions and recommendations to the shippers.

Perfect Combination

American railroads have done an amazing job in bringing freight rates down to an average of one cent a ton-mile—and of paying the world's highest rail wages at the same time. This has been accomplished with private capital and management cooperating with skilled labor. This combination has proved incomparable in the past and can continue incomparable in the future. It has brought a degree of prosperity undreamed of in other lands, where cheap wages, minus capital and management, have brought stagnation and suffering.

Cincinnati Enquirer

Airfreight . . .

(*Continued from Page* 46)

be the same for all airlines, and no preferential or prejudicial mileage brackets will exist. One thin mileage guide would fill the bill, and it should be subscribed to by all of the airlines. Next, use standard highway mileage guides that are already in existence for the ground mileage from the origin to airport, and from airport to destination. These guides are accurate and should also be subscribed to by all airlines. The total mileage of any shipment would then be computed as follows. Mileage from origin to airport on standard highway mileage guide, airport to airport on standard great circle mileage chart, mileage from airport to destination on standard highway mileage guide. The exact mileage of the theoretically shortest distance for transportation between origin and destination is then known. It then doesn't make any difference how far the ground carrier travels to actually make the pickup or delivery, or how far the airline travels over its route to make the airport to airport haul. The important fact is that the shipper is charged for only the actual shortest distance between the two points, and that the mileage will be the same regardless of what airline hauls the shipment.

The next step is to formulate a tariff based on the ton/mile costs of hauling by air for the shortest practical air haul, and the ton/mile costs of the longest possible air haul. In continental United States the shortest practical haul is about 300 mi. For any distance less than this, there is no appreciable time saving involved. Unless there can be a saving in time there is no economic reason for air freight. There may be some reason in the event of a strike situation or in the necessity for getting some commodities such as newspapers or racing forms from one city to another in the shortest time. These commodities are the exception however, and the rule should not be set up for them alone. The general run of commodities will have to be hauled

more than 300 mi. to effect a saving commensurate with the added cost of transportation. Short hauls should take the rates that are established for 300 mi.

There are two reducing factors which must be taken into consideration in construction of the tariff. The first of these is for length of haul. The ton/mile cost of hauling any freight shipment for 300 mi. is greater than the ton/mile cost for hauling the same shipment 3,000 mi. A graph showing these costs will show a rapid decline in the shorter mileages, and the decline will level off as the mileage increases until it will become a practically constant figure. The second reduction factor should be for increased weight of shipments. There you can set up as many weight brackets as are desired. I believe that at present there should be six weight brackets published. These are 100 lb.-499 lb. (100 lb. minimum), 500-999 lb., 1,000-1,999 lb., 2,000-3,999 lb., 4,000-7,999 lb., and 8,000 lb. and over. This will take care of the comparatively light shipments as well as the full plane loads. Known weight break points can then be established between all weight brackets.

The next step is to set mileage brackets for the tariff. The following suggestion is made: 300 to 500 mi. at 5 mi. per bracket, over 500 to 1,500 at 10 mi. per bracket, and over 1,500 mi. at 25 mi. per bracket. The reason for this increase in the mileage bracket is the decelerated rate of reduction of the ton/mile costs.

If such a system were followed through, you could construct a tariff which was easy to read, condensed in form, equitable to all shippers and localities as to rate and mileage, and convenient to use for interline hauling. It would be practical for all of the airlines to concur in the same tariff, and possible for all to quote rates.

There is only one class of commodities which requires the use of airfreight. The class embraces all articles requiring fast transportation. This need for speed is the only reason for the existence of airfreight. When all the other reasons are analyzed they ulti-

(*Continued on Page* 84)

Railroads, motor carriers, airlines, the Railway Express Agency and numerous commercial organizations have separate loss and damage prevention programs. The situation is similar to that which might exist if 1,000 men tried to overhaul a single automobile at the same time without coordination of efforts.

The Price of Claims

By R. E. EDWARDS

General Traffic Manager
Hassco Hardware & Steel Supply Co.

Colorado State Chairman
Loss & Damage Prevention Committee
Central Western Shippers' Advisory Board, Denver

HOW much will lost and damaged freight cost productive and distributive agencies and the consuming public in 1947? Before attempting to answer this question, we should know the per capita cost of transportation in the United States. It has been estimated that 25 percent of every dollar spent by every man, woman and child in the United States goes for transportation. This is more than goes in taxes. We hear a great deal about the high cost of government but too little about the high cost of transportation.

This 25 percent is made up of numerous transportation charges. Let us take, for example, a common steel can opener purchased in a hardware store. The ore, or raw material required in its manufacture, had to be transported from the mine to the smelter; the resulting ingot had to be transported to the steel mill, then to the rolling mill, to the manufacturer, to the distributor, to the jobber, to the dealer and, finally, to the ultimate user. To these charges must be added the costs of transporting coal, oil, lumber, paper and many other items used by the various productive and distributive agencies along the line in converting what was originally a piece of ore into a fine can opener. As we study this chain, we no longer wonder why 25 percent of every dollar spent in the United States is invested in transportation. At the same time, we grasp more fully the fallacy in the frequently heard statement: "Transportation costs are something for the other fellow to worry about—I'm not in the shipping line."

Without unceasing efforts on the part of the Assn. of American Railroads, the American Trucking Assn., the individual railroads, the individual motor carriers, the Railway Express Agency, the various airlines, the service clubs and shippers and receivers of freight, I would hate to estimate what the loss and damage figure would be today. In spite of these programs let us look at the record. These figures were taken from annual circular No. FCD-1219, published by the Assn. of American Railroads, operations and maintenance department, Chicago. The report, of course, covers only the railroads. In 1938, loss and damage figure totaled slightly over $18 million and it has been rising ever since in spite of the fact that approximately 60 percent of all freight

shipped during the war was packed by or for the government under military supervision.

Forty percent of the freight shipped during those same years was packed and shipped by firms for domestic use. Of the total amount of claims paid 85 percent was chargeable to the 40 percent of the merchandise shipped during the same period for domestic use.

In 1944 the annual damage bill had risen to about $58 million and in 1945 to $78,791,300. In the past eight years a total rise of 437 percent has taken place. It is estimated that the bill for 1946 will be well over $100 million, which will make the rise in nine years about 600 percent. Unless something drastic is done this year, based on these figures, 1947 will mark a rise of some 800 to 1,000 percent in freight loss and damage for the past 10 years.

Let us take a look at the numerous freight loss and damage programs which are being carried on in this country. Railroads, motor carriers, Railway Express Agency, airlines and numerous commercial firms have programs. Conservatively speaking, there must be well over 1,000 or more different programs being carried on without any real coordination. Imagine, if you can, 1,000 men trying to overhaul a single automobile at the same time without any coordination.

It would seem that under the circumstances, the real question has still to be answered. "What can be done to cut down this ever increasing loss of merchandise?" The attitude of labor, poor equipment, shortage of packing material, inexperienced help, government regulations, competition, and many other factors have been presented as excuses.

I remember a statement by one of my former teachers. "Can't never did anything." But the word "can't" seems to be the one word we hear most these days. Total figures on loss and damage cannot be compiled if, to the loss sustained by the carriers, one adds the loss sustained by the manufacturers, jobbers, dealers, and consumers.

For example, a jobber receives

from a manufacturer a shipment of gas furnaces. In this shipment one or more furnaces arrive with dents in the outside casing. All of these furnaces have been sold long ago to builders of veterans' homes. Many veterans have small children or elderly relatives living with them in these homes.

This furnace arrives and is damaged. It will heat, but its looks have been marred. The dealer has made an adjustment with the railroad for this damage. He made an adjustment because of the excessive cost of shipping another casing from the factory. The dealer calls his customer and advises him that his furnace has arrived, and that it is slightly damaged. When the customer sees his furnace even though he is told that the damage in no way affects the heating performance of the unit, he is reluctant to place the damaged furnace in his new home. He does not want a furnace which is marred, scratched or dented.

The customer then asks the dealer when he can obtain delivery of another unscratched furnace, if he elects to wait. Production schedules by the manufacturers show that it will be many months before a current order can be filled, so in order to have heat in his home, reluctantly he elects to accept the dented furnace and has it installed in his new home.

Winter arrives and his favorite corner does not heat properly. His wife and children complain. What is his reaction? Not thinking that perhaps the heating contractor who installed his system might be at fault, he assumes that the damaged furnace he was forced to buy from the dealer is not working. The dealer, though through no fault of his own, has lost a customer for life.

What can be done to solve these problems and to develop a single program which will cover the field and get the job done economically and swiftly? We of the Freight Loss and Damage Prevention Committee of Colorado, of the Central Western Shippers Advisory Board, believe we have the answer. We have started such a program, and to date we have had amazing results.

On Aug. 2, 1946, the first of a series of meetings was held in Denver, Col., between the Loss and Damage Prevention Committee and the Railroad Committee of Contact and Cooperation. A plan was presented for an extended program to run continuously each month throughout the year.

On Nov. 14, 1946, the second meeting was held between the same committees together with the committees from the Traffic Club of Denver, the Denver Commercial Traffic Club, the Colorado Traffic States Weighing and Inspection Bureau and the Colorado Motor Carriers Assn.

On Dec. 4, 1946, the first public meeting was held in the Continental Oil Building auditorium and supervisory personnel employed by the railroads, motor carriers and commercial firms was invited to attend. This program was given much publicity, which explained that we were reaching out a helping hand to the men who actually do the packing, shipping, handling, and stowing of freight. This motto was adopted; "Let's change O.S.&D. (Over, Short and Damaged)" to "Obtain Safe Delivery."

On Jan. 6, 1947, the third joint meeting of the same committees was held and in addition warehouse foremen and dock foremen were invited to attend to give their views.

Practical steps toward the reduction of the nation's staggering bill for loss and damage to freight were outlined in detail at a meeting of representatives of shippers and carriers Jan. 27 at the Denver Chamber of Commerce.

The meeting, sponsored by the Freight Loss and Damage Prevention Committee of the Central Western Shippers' Advisory Board, was attended by nearly 350 persons. The writer, as state chairman for Colorado, presided.

C. S. Milligan, container engineer, Inland Paper Box Co., led an enlightening discussion of "Rule 41" and reported on progress within the industry in promoting the program of "custom built" containers for specific uses as a means of reducing loss and damage.

Representatives of the Railway Express Agency and the Western Weighing and Inspection Bureau reiterated the importance of proper labeling, stamping and container certification as one of the most important phases in the entire loss and damage prevention program.

A sound film, "Rolling the Freight," illustrating freight handling methods, was shown.

Unanimous approval was given the proposal that a standard form be adopted for the notification of shippers when their freight arrives at destination in damaged condition, the form to be used in developing an educational program for proper packaging.

The Railroad Committee of Contact and Cooperation, headed by L. F. Dickinson, took an active part in the meeting. Plans for a general meeting were formulated.

In two other cities in Colorado, chambers of commerce have inquired about our program. We soon will start a similar program in nine Colorado cities. A conservative estimate indicates that about 1,500 persons soon will be actively working as one solid unit for the prevention of loss and damage to freight in Colorado. It is hoped that our program will spread to the other 47 states. Interest in our program and cooperation on the part of the carriers, shippers and receivers of freight is beyond comprehension. We of the Loss and Damage Prevention Committee of the Central Western Shippers Advisory Board of Colorado, the Railroad Committee of Contact and Cooperation, together with the numerous service clubs already sponsoring this program, are sure we are on the right track.

There is not a community in the United States which cannot have the same kind of program as we have started in Denver.

More Steel

With more steel in sight for building freight cars, railroads have enlarged their programs for new car buying to a total of 131,600 cars costing about $650,000,000, R. V. Fletcher, President, Assn. of American Railroads, told the Interstate Commerce Commission recently.

AAR . . .

(*Continued from Page* 19)

rier and the receiver of freight, many of these activities are aimed largely toward the benefit of the shipper and the receiver of freight. Right now, work is going on to simplify tariffs and rates; engineers are developing better methods of packaging freight from stoves and plumbing fixtures to mirrors and neon signs, and tests are being made of dangerous and inflammable articles. Other committees are working to develop better cars, better methods of loading and unloading those cars, better track for the cars to ride upon, and better motive power to pull the cars.

It is work such as this which has largely made it possible for residents of Northern New England to enjoy the production of Southern California, while products from the State of Washington can travel to Florida in a single freight car as a single transaction and at the lowest real cost in the world for such transportation service.

As to the future, the activities of the Assn. of American Railroads are directed to a continuation of the steady progress—the regular evolution to ever better railroads—that goes on all the time in the railroad field.

Cherne to Speak

A subject of topical importance to sales executives from all over the nation will be discussed by Leo Cherne, executive secretary, Research Institute of America, at the 12th annual convention of The National Federation of Sales Executives at The Biltmore Hotel, Los Angeles, June 2, 3, and 4, it has been revealed by John R. Christie, general convention chairman, and vice president, Citizens National Trust and Savings Bank, Los Angeles. Mr. Cherne will speak extemporaneously to an anticipated record convention attendance of 1,500 NFSE members and non-members.

Accompanying Mr. Cherne on the NFSE Convention speakers panel will be 12 other American and Canadian businessmen, including William E. Holler, formerly general sales manager, Chevrolet Motor Division; Don Francisco, vice president and director, J. Walter Thompson Co.; Burton Bigelow, president, Burton Bigelow Organization; Arthur H. Motley, president, Parade Publication Inc.; Gene Flack, director of advertising and trade relations, Sunshine Biscuits, Inc.; J. M. Moore, general manager, Silex Co., and Neil Petrie, president, Barker Bros., Los Angeles.

ROBERT S. McFARLAND

H. A. DURFEE

J. P. KILEY

Rail Problems in

Railroads in the Pacific Northwest are expending millions of dollars in new equipment and shipping services. . . . Top rail executives and spokesmen for industry, while optimistic in respect to the future, agree that labor difficulties and the box car shortage are serious current problems.

By WARREN E. CRANE

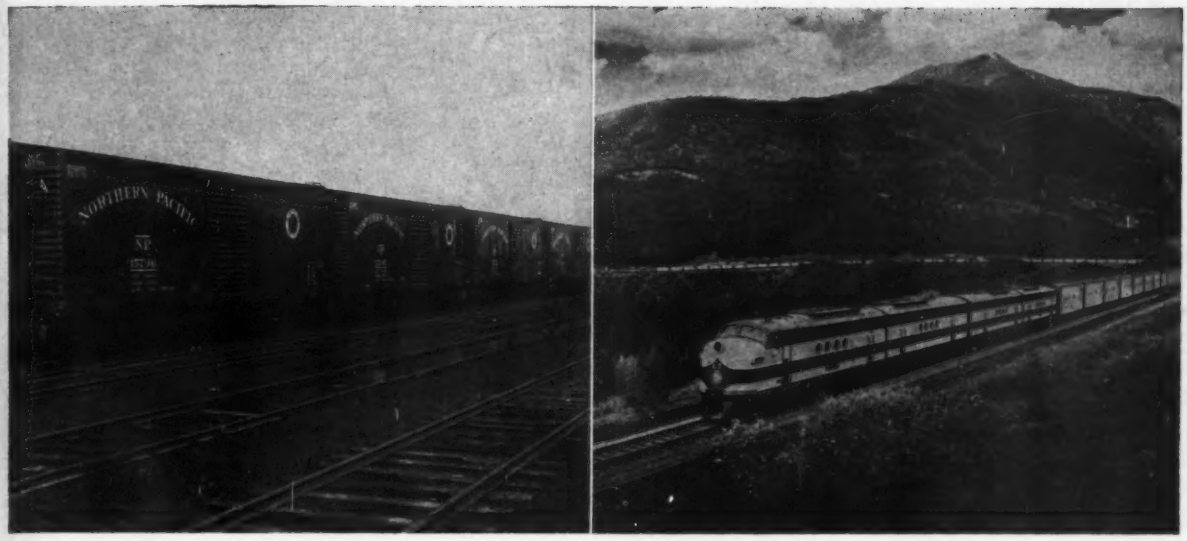
Special Correspondent

WHAT are the major current problems affecting efficient use of rail transportation? What is the outlook for improved equipment and improved handling methods? What is the general situation in respect to the trans-continental roads? Will the present freight car shortages continue into 1948? What are the railroads doing to improve their overall services to shippers? What is the business outlook for the roads in the Pacific Northwest for the coming year?

Executives of some of our leading railroads and the traffic managers of some of our large shippers have combined to answer these questions. Let us consider the manner in which the Northern Pacific railroad is striving to deal with current problems. Shortly after C. E. Denney became president, early in 1940, the Northern Pacific launched on a continuing improvement program designed to reduce costs and furnish better and faster service. From 1940 through 1945, more than $93 million was expended in connection with that program which has continued through 1946 and into the current year.

Millions of dollars have gone into new and heavier rails to accommodate increased equipment. Hundreds of miles of track have been improved with new ballast and new ties. Special attention has been given to the reduction of track curvature and improved alignment. From 1940 through 1946, almost ten thousand freight cars and 55 heavy road locomotives were put into operation. Included in the added motive power were eleven 5,400 diesel-electric locomotives, now in service on the Tacoma division. During January and February of the current year, the company has put into service 11 additional diesel locomotives, six of which are 4,500 h.p. passenger engines and five are 6,000 h.p. freights. New passenger locomotives have been added, completely dieselizing the transcontinental North Coast Ltd. between Seattle and St. Paul. Included in the new freight car equipment are 50 giant super-insulated refrigerator cars, placed in service late in 1946 to meet growing demands of the Pacific Northwest's rapidly increasing frozen fruit and vegetable industry. Fifty additional cars are on the docket for the near future.

"I am optimistic as to the outlook for railroad transportation in the remainder of 1947 and the year of 1948," said Robert S. Macfarlane, vice president, Northern Pacific. "I believe business con-

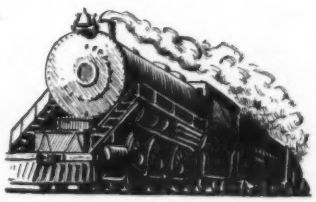


Northern Pacific has added nearly 10,000 freight cars since 1940. A freight train of 106 plywood cars is pulled by powerful diesel.

Pacific Northwest

ditions will be good and that the railroads will share in this general condition. Of course, there are many situations that could upset this viewpoint. These include rising operation costs based on possible increases in labor expenses Our estimated operating revenues for the first two months of 1947 are 8.42 percent over the corresponding period of 1946. A breakdown indicates that our freight revenues show an increase thus far of 27.98 percent over last year and our passenger traffic a loss of 64.80 percent. The decrease in passenger revenue is primarily due to the falling off of military traffic. The increase in freight revenue is partially due to increased freight rates authorized by the Interstate Commerce Commission effective Jan. 1, 1947.

The Chicago, Milwaukee, St. Paul and Pacific Railway, popularly known as "The Milwaukee," reports that its gain in freight traffic has been 12 percent above that of 1946 during the first two months of 1947. The company's passenger traffic has been down because of reduced traveling by military and naval personnel but the net gain in revenue has been



about two percent ahead of last year. This company, in common with other Pacific Northwest lines, is suffering from car shortages and reports that only 85 percent of the cars owned are in service.

Five favorable factors promise increases in the company's freight business in the Northwest, according to John P. Kiley, assistant to the president of the "Milwaukee." 1. The increase in lumber production in the Pacific Northwest. 2. The shortage of paper pulp in the east and the large production capacity in the northwest. 3. The development of irrigation in the Columbia Basin. 4. Favorable crop indications and the possibility of higher prices. 5. The heavy demand for shipments of goods to the Orient where acute shortages exist.

"We are doing everything possible to increase the speed and efficiency of our handling of freight," said Mr. Kiley. "To the extent that labor and materials have been available, we have been constantly improving our facilities. These improvements include the construction of l.c.l. freight stations, new yards, extensions of sidings and improving our track through the use of new and heavier rail and ballasting. We are also installing a new system for centralized traffic control. To expedite train handling, we have been actively engaged for the past two years in testing various types of train communication systems. We are rehabilitating our passenger service, adding new modern equipment and extending our Hiawatha service to the North Pacific coast.

Through our so-called President's Committee which is representative of all departments we are making continuous studies of new methods of promoting greater safety, efficiency and speed. "Our road has always marched in the vanguard of progressive lines. With this thought in mind, we have had a large number of box cars built with frames of high tensile, light-weight steel during the past ten years. Many of our box cars have light plywood roofs and sidings to ensure a reduction

in the weight of the pull. "We now have 3,000 box cars and 500 gondolas under construction to replace the worn out cars now in service. We will not realize the full benefit of light weight freight cars of this type until all the railroads are able to put them into service."

Commenting on the Great Northern's new lightweight box cars. Thomas Balmer, vice president, said that 1,000 50-ton capacity plywood box cars are to be added to its equipment in order to increase its efficiency as a freight carrier. The combination of steel, Douglas fir plywood and lumber produces a freight car which is approximately two tons lighter than the average conventional steel box car. The underframe and superstructure are of steel of slightly lighter weight than that used generally. Outside and inside sheathings, including the ceilings are made of 5/8 in. Douglas fir plywood. The plywood is treated first with a "sealer" to prevent warping.

According to Frank P. Borden, traffic manager, Douglas Fir Plywood Assn. and President of the Pacific N.W. (Shippers') Advisory Board, no review of 1946 is complete without recognition of the impelling "case for cooperation" developed by shippers and carriers through their effort to keep peak shipments moving over war-worn railroads. Throughout 1946, he said, the year of reconversion, no single factor was more vital to speedy return to "peace time" production and consumption than continuous adequate transportation. He also asserted that freight offerings for the period were at or very nearly approaching all-time highs (including war records) and shipping facilities for the moving of goods were far from ample when based on pre-war standards.

"Many seemingly insurmountable obstacles have been encountered, Mr. Borden said. These include the coal and maritime strikes, material shortages in new box cars, a shortened work week, postwar fatigue and governmental directives requiring that railroad cars be reserved for relief shipments." "In spite of all this, however, there were no fatal breakdowns of railroad transportation and no disastrous interruptions of shipments. Railroads of the nation, therefore, deserve the citation, 'well done'."

Mr. Borden advocates three important steps in the maximum utilization of every piece of freight carrying equipment of the nation's railroads: 1. Quarterly forecasts of car requirements. 2. Loss and damage prevention. 3. Efficiency in loading and cleaning cars.

The Simpson Logging Co. is one of the largest shippers of forest products in the Pacific Northwest. Officials of this organization point out that lumber, plywood and other wood products are of no value until transported. Past interruptions in transportation caused by railroad and maritime strikes have brought this lesson home.

H. A. Durfee, traffic manager of the Simpson Logging Co. said: "The mere movement of goods or products is not a complete solution of the transportation problem. Rates, schedules, and equipment also enter into the picture. I wish to comment on these three phases of the problem. Our industry realizes that railroads must receive adequate revenue to meet costs of operation. Furthermore, we realize that railroad labor, materials and equipment have increased in cost and greater revenues are necessary to meet them. However, continuing increases tend to prevent the free flow of rail traffic. To restate the matter, whenever one medium of transportation becomes too expensive, there is a tendency to divert the movement of our products to some other kind of carrier.

"The average shipper of forest products is more seriously concerned with the existing car supply than perhaps any other single factor of transportation. We are deeply concerned with reports that the number of cars being removed from service is greater than the number of new or repaired cars being added. This trend obviously results in less serviceable cars in operation. Ways and means of increasing the number of serviceable cars for both shipper and carrier constitute, in our opinion, the most important problems in railroad transportation."

A brand new custom-built aluminum sheathed refrigerator car recently has been placed in service by the Pacific Fruit Express, jointly operated by the Union Pacific and Southern Pacific. It was built by the Pacific Fruit Express Co. in its own Los Angeles car shops and incorporates already proven features plus virtually all the new ideas and suggestions of the National Fruit and Vegetable Trade Committee. It is now being subjected to extensive car tests and research in actual service which will extend over a period of approximately two years. Although the underframe and other weight-bearing parts are of steel, providing strength comparable with that of standard cars, principle weight savings are affected by the use of aluminum alloy in many parts of the superstructure. The total weight reduction as compared with prewar cars, is nearly five tons. This experimental car retains standard dimensions and all-purpose features.

The Pacific Fruit Express also has under construction five thousand light weight, high tensile steel refrigerated cars to be placed in service as rapidly as builders can complete them. One thousand of these new cars are being built in the Renton, Wash., plant of the Pacific Car & Foundry Co., in addition to the 4,000 which are being constructed in various other car building plants throughout the United States.

No Joy-Ride

Temperatures as low as 72 degrees below zero were encountered by Ray Chamlis, Seattle, Wash., truck operator, in a grueling, perilous trip over ice-coated Alaskan roads in a specially equipped heavy-duty Chevrolet truck hauling a payload of 27,000 lb. Describing his 6,800 mi. round-trip journey to Fairbanks, Chamlis said it was often necessary to allow the engine to run all night to prevent the oil from changing to "clinging gum." Most of the roads on the trip, Chamlis said, were covered by ice, "either glare and slick as oiled glass, or rough as a frozen plowed field." Steep grades and right-angle turns added to the danger and difficulties of the trip.

LOADING TIME CUT IN HALF

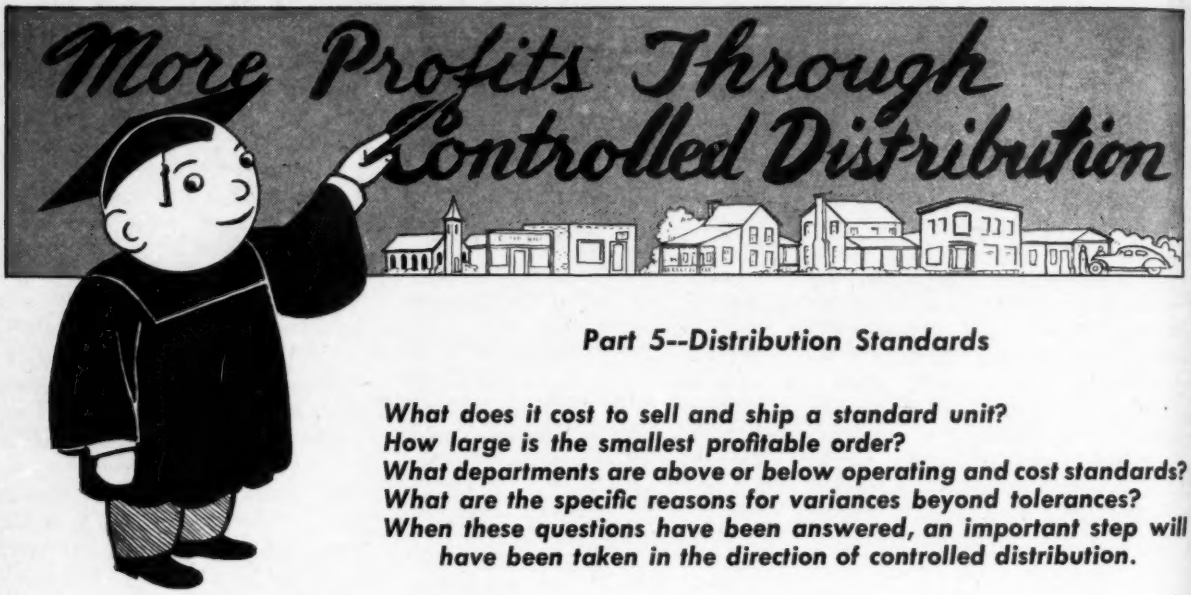
(*Continued from Page* 29)

on the very top layer beneath the car ceiling, is a one-operation procedure. The crane arm extends longitudinally over the box, the grappling hooks are affixed at the center to achieve balance, and the box is swung gracefully into its designated position in the car. The lift truck operator needs one assistant to guide the box. In top layer stacking, three simple manipulations are involved. First the far end is hoisted and set to rest against the edge of the third tier box. Secondly, the opposite end is raised to the same level and the whole box is eased inwardly by the boom-tongs combination until it rests there securely balanced. The tongs are removed from the box and are dismounted from the boom. The "nose," or boom fixture, completes the task by pushing the box until its edges become flush with those of the one below. In cars with 12-ft. ceilings, boxes are stacked five high.

There is wisdom in first stacking only two rows, four boxes each, within the end of the car. The unfilled space allows the truck to maneuver freely as it completely fills the opposite end of the car with four rows, or 16 boxes in all. The six remaining boxes of a 30-box shipment are handled directly off the dolly. An average lift truck loading, utilizing three men, requires seven man hours as compared with manual loading by eight men working fifteen man-hours. More important still—no lost-time hours have been caused by lifting injuries.

No arrangement has yet been made with customers for the handling of shipments at point of destination. The "nose" is not necessary in unloading box cars inasmuch as it is used only in loading for pushing top boxes into position. Unloading is a much simpler task because it does not require the strength nor the number of men required for loading.

In conclusion it may be said that lift truck manipulation of carpet boxes commences with the stacking of wood "shooks" which have arrived by truck. Shooks are slabs of wood from which boxes are made and are 2 ft. wide by 9 to 18 ft. long. "Shooks" naturally are hard to handle. The company, by means of a fork truck, handles two or three at a time. Now, with lift trucks, they can be stacked to the ceiling; formerly a six-ft. height was the limit. It's amazing how much space is saved in this manner.



Part 5--Distribution Standards

What does it cost to sell and ship a standard unit?
How large is the smallest profitable order?
What departments are above or below operating and cost standards?
What are the specific reasons for variances beyond tolerances?
When these questions have been answered, an important step will have been taken in the direction of controlled distribution.

By R. M. COBURN
Marketing Consultant

A WELL integrated distribution organization may be conceived as a complex machine whose parts are human beings and whose motive power is human energy. More than any other major business function it requires direction which not only is centralized, but which is being infiltrated constantly to its smallest and farthest components. Many of its elements are far removed physically from direct management. The fact that much of the direction must necessarily be maintained by remote control makes it incumbent upon management to utilize every possible means of supervising detailed activities.

Scentific management in distribution implies, as it does in any other business function, the most effective use of standards, methods (standard practice) and controls. The admitted difficulty of remote control, especially of sales and other marketing functions, has discouraged most manufacturers from attempting to institute formal control procedures as standard practice. This is another reason for distribution incompetence.

The dictionary defines "standard" as ". . . an accepted model for comparison; basis for measurement or the like . . . a high or recognized order of excellence."

Every executive would like to have his department so described, but how many, particularly in distribution, are willing to pay the price for it? Accurate standards and their benefits cannot be achieved by rule-of-thumb management, by hunches, by inspiration, by empiricism, by the "let's try a little of it and see what good it is" school. Slapping with a tack-hammer at a job which demands a pile-driver will never reveal what could have been accomplished with the right tool.

"To make useful to an enterprise the results of research, investigation and experiment must be made available to the cooperating groups in the form of defined and published standards, which serve as common goals, facilities and methods, and which replace chance and variable factors by constants in terms of which may be made calculations and plans which may be expected to come true."[1]

No manufacturer would turn a wheel in his shop without prior establishment of many kinds of standards and standard practices. All sales departments, whether they realize it or not, must have some kind of standards in order that the sales manager may evaluate, however inaccurately, the performance of his department. A sales quota is a standard, no matter how derived. To the sales mind, standardization sounds very much like regimentation which is a naughty word in some business circles. And yet no large corporation could function for a single day without a high degree of regimentation and discipline.

There are apparently valid reasons for the negative attitude of sales people toward the idea of standardization. The nature of the work itself, the temperament of sales personnel, the fact that no two territories are exactly alike, the intangibility of many of their problems plus the constant physical separation make it difficult to see much of a parallel with the precision of production. But sales people, like many others, often confuse the means with the principle and fail to understand that the same principle at work in production and in distribution would manifest itself in entirely dissimilar means which could not possibly be interchanged.

In preparing for post-war competition, progressive managements are giving more attention than ever to sales training both for older men who had grown rusty during the war and for beginners.

[1] *The Principles of Scientific Management by Frederick W. Taylor. Harper and Bros. N. Y. 1934 p. 10.*

Sales training is simply a matter of inculcating habits of standard practice so that standard results may be attained and that is regimentation no matter what it is called.

The number and kinds of standards that may be set in a well organized sales department are almost unlimited. Scientific management, even in full force, would use only a few of those to be listed below. In any one concern, the law of diminishing returns would necessitate the selection of only those standards proven in use to be the most effective.

A. Standards may be set in dollars and units by:
   1. Customer, territory, district, zone and United States.
   2. Product or product group.
   3. Channel of distribution.
   4. Class of trade.
   5. Method of sale.

B. Tabulations of results may be posted:
   1. Weekly
   2. Monthly
   3. Quarterly
   4. Yearly

C. Reports of results may be recorded as:
   1. Cumulative
   2. Comparative with past actual
   3. Comparative with standard
   4. Any combination of the three

Some of the data that may be used to establish standards, to include any combination of A, B and C (above) are:

1. Sales potentials
2. Sales quotas
3. Actual sales
4. Ratio of actual sales to quotas and potentials
5. Number of customers
6. Number of qualified prospects
7. Average potential sales per customer
8. Average actual sales per customer
9. Frequency distribution of customers by size
10. Standard deviation of customers by size
11. What percentages of customers produced what percentages of sales
12. Frequency distribution of orders by size
13. Standard deviation of orders by size
14. Ratio of average potential sales per customer to average actual sales per customer. (No. 7 to No. 8 above)
15. Total number of old and new customers
16. Total sales to old and new members
17. Ratio of total sales to old customers to total sales to new customers
18. Number of lost customers
19. Number of lost orders
20. Value of lost orders
21. Number of sales calls.
22. Number of hours worked
23. Number of productive hours *
24. Ratio of total hours to productive hours
25. Number of calls per sale
26. Volume per sales call
27. Volume per productive hour
28. Number of productive hours per call (or vice-versa)
29. Total sales cost in dollars
30. Total sales cost as a percent of the sales dollar
31. Total sales cost per unit sold
32. Total and unit sales costs broken down by:
    - 32.1 Direct field sales cost
    - 32.2 Advertising — where directly applicable
    - 32.3 Promotion—where directly applicable
    - 32.4 Warehousing
    - 32.5 Transportation (out-freight)
    - 32.6 Shipping, packing and handling
    - 32.7 Research
    - 32.8 Credits and collections
    - 32.9 Administrative, financial and overhead
33. Total and unit direct field sales cost, (32.1 above) broken down by:
    - 33.1 Salaries
    - 33.2 Commissions
    - 33.3 Bonuses
    - 33.4 Transportation
    - 33.5 Hotels
    - 33.6 Meals
    - 33.7 Entertainment
    - 33.8 Miscellaneous, (Tel. & Tel., postage, supplies, etc.)

** Productive time may be defined as that during which a salesman is in a position to take an order.*

34. Cost per sale (can be broken down as No. 32 and No. 33 above)
35. Cost per call
36. Cost per productive hour
37. Cost per order
38. Cost per customer

In the operating statement, "gross profit" is figured by subtracting "cost of sales," (labor, material and factory overhead) from "net sales." If this "gross profit" figure can be substituted for "sales" and "volume" wherever they appear in the statistical suggestions above, a much more accurate picture of the comparative efficiency of each sales unit will be obtained. There would then be one set of figures representing gross profits and another showing direct sales costs. If the second is subtracted from the first, the result will be, not a true net profit—all indirect, administrative, financial and other overhead expenses are omitted—but a clear and flexible indication of sales unit profitability. It may be called "sales net profit" and will provide an accurate standard for control purposes.

Table I. is a suggestion for the start of a monthly sales analysis only. Standards may be set for each item and when comparisons of performance vs. standard are made, the first step toward actual control will have been taken. Details of such control will be found in a later article on distribution controls.

It is possible to set up in tabular form more than 9,000 different sets of statistical data from various combinations of the suggestions listed. There are probably even more, but how many and which combinations would prove useful to any organization is a matter of individual judgment and the company's needs. There is a vast and rich mine of material available for control in the systematic evaluation of the efforts and results of any sales department. It can provide facts to answer such questions as:

1. How many customers were below the profitable standard?
2. What territories, districts and zones were below profitable standard?
3. What was the total sales volume below profitable standard?
4. What constitutes a marginal account?
5. At what point can they be profitably eliminated?
6. Were costs high, low, or average vs. comparable costs in the past and with the entire industry?
7. How do potentials and sales compare percentage-wise with the relative potential, output of production equipment? If products A, B and C, for example, account for 20%, 35% and 45% of the market, do the machines to make them, produce in the same ratio to total production? If not, what are the long and short term outlooks? Should equipment be changed to match the proportions of the market? A nice job for Market Research.
8. What caused variances, beyond tolerance, from the budget?
9. How can such deviations be prevented?
10. What channels of distribution, classes of trade, and methods of sale are unprofitable?
11. Which products or groups of products show a net profit? Which show a loss?

The nature of advertising precludes a strong emphasis on objective standards in measuring results. The element of opportunism and the need for frequent changes of interest make impracticable a formal program of standardization. It is extremely difficult to attribute results to specific advertising except in mail order business. Only general appraisals may be made because of the time element, but they can serve as guides for future plans. Market research can show whether some types of advertising are being read more than others, but it cannot specifically tell how to advertise.

Point of sale advertising, however, presents a somewhat different picture. A store display is right where the good are sold and its effect may be measured with a fine degree of accuracy. In a booklet published in 1940, Tradeways, Inc., of New York, demonstrated the following results with canned motor oil sold with and without special racks in gas stations of the same average kind and size in the same kinds of locations:

Without oil racks, 30 gal. average per month.

Oil displayed in racks, 51 gal. average per month.

There were 2 grades of oil, however, and to show that merely providing a display rack would not alone affect sales, two methods were used:

1. With both grades in the same rack, 32 gal. average per month.

2. With each grade in a separate rack, 58 gal. average per month.

It is interesting to note that unless the grades were in separate racks their beneficial effect was negligible.

The function of public relations, largely concerned with intangibles, does not appear to be particularly adaptable to exact standardization. Since its purpose is to influence public opinion, periodical surveys can, within reasonable limits, determine what activities produce the best results.

TABLE I

Dist. 5	Number of Calls	Total Sales	Total Gross Profit	Total Direct Sales Cost	Sales Net Profit	Average Gross Profit Per Call	Average Cost Per Call	Sales Net Profit Per Call
Terr. A	200	$15,000	$ 4,500	$600	$ 3,900	$22.50	$3.00	$19.50
Terr. B	160	12,800	3,840	640	3,200	24.00	4.00	20.00
Terr. C	250	12,500	3,750	625	3,125	15.00	2.50	12.50
Terr. D	150	18,000	5,400	412.5	4,987.5	36.00	2.75	33.25
Terr. E	300	12,000	3,600	650	2,950	12.00	2.17	9.83
Total District ..	1060	$70,300	$21,090	$2,927.5	$18,162.5	$19.89	$2.76	$17.13

There are a number of standards that are useful in the credit department.

Some of them are:

1. Individual standard credit limits for each open account
2. Average age of open accounts
3. Average amount of past due receivables
4. Standard ratio of past due receivable dollars to total open account dollars
5. Standard ratio of past due accounts to total number of open accounts
6. Standard ratio of credit losses to total sales
7. Standard forms of collection letters

Continuously repetitive office operations, such as typing, billing, etc., are subject to standard output and standard costs. The expense of handling a single order, or a single item may be standardized. These are the concern of industrial engineering. This department, however, is most useful in determining standards for the physical handling, packing, shipping and storing of goods.

The creation of work and cost standards follows the same general procedures that are used in the plant. Engineering in distribution, however, has an opportunity to create a double standard. It may decide that a standard worker, with a certain machine, (or without) will handle a particular number of standard units per hour. In the case of an entire shipping department it may set quantity and cost standards *in toto*. That is straight, single-standard engineering. But when costs are tied to a flexible budget, the expense of operating a shipping department must bear a fixed, standard relationship to the sales dollar at various activity levels. The budget, for example, may allow $15,000 per year direct labor cost in the shipping department at $10,000,000 yearly sales, or .15 percent of sales. As volume varies, the allowable percent for shipping department direct labor expense will vary as a semi-fixed item, but since it does change, it will be the responsibility of the distribution cost controller that the proper ratio of expense be maintained at each activity level. The cost of operating every other department also is subject to the variable requirements of the flexible budget.

With standards in use throughout the entire distribution department, it will be possible to determine with fine accuracy, not only the answers, but the specific reasons for the answers, to such questions as:

1. What does it cost to sell and ship a standard unit?
2. How large is the smallest profitable order?
3. What departments are above or below operating and cost standards?
4. What are the specific reasons for variances beyond tolerances?

When accurate answers to these questions, and others like them can be determined, another important step will have been taken toward controlled distribution. In order, for example, to answer question No. 1 above, it will be necessary to use expense data from every one of the five line and four staff functions, because each one of them contributes to the total distribution cost.

DISTRIBUTION DIGEST

Comment on Cross Currents In the Stream of Distribution

By JOEL KEITH
Managing Editor

All Yours, John . . . Public understanding of railroad "facts of life" is improving, but is still a long way from what it ought to be, says W. A. Johnston, president of Illinois Central. We agree, and submit that it might be a good idea to convince John Q. Public that the American railroad system is HIS baby, and not the pampered brat of so-called "moneyed interests." Here's what *The Spectator*, leading insurance publication, says on the subject.

"Railroad securities to the sum of 4 billion dollars, mostly senior mortgages, are held by insurance companies for the account of their 70 million policyholders. Banks, charitable and other institutions, hold 3 billion dollars. The balance in bonds and stocks, having a par value of 10 billion dollars, is owned directly by 5 million individuals, most of whom are women. No other American industry has its securities so widely distributed."

o o o

From Bags to Riches . . . On March 4, 1839, William F. Harnden set out from Boston for New York with a voluminous carpet-bag filled with parcels to be delivered to busy merchants and business men. Mr. Harnden, a conductor on a New England railroad, had an idea that there might be a bright future for the express business. And Mr. Harnden was right.

The Railway Express Agency, successor to all previous companies, handled 233,520,508 shipments in 1946. This averages 444 shipments per minute—or more than the original expressman was able to handle in a week!

o o o

Blitzed Pickets . . . Striking AFL teamsters borrowed the tactics employed by London's defenders in the early days of the war, and flew box kites in an attempt to prevent a helicopter from carrying raw materials to the Cornell Dubilier Electric plant in New Bedford, Mass. The helicopter just hopped over the kites, making hourly deliveries.

An example, perhaps, of management rising above a situation.

o o o

This Could Become Serious . . . A manufacturer of suspenders, garters, belts and similar items fabricated his products of plastic resin. Under the trade name "elasti-glass," he advertised his merchandise as "a form of glass." The Seventh Circuit Court of Appeals upheld the manufacturer, pointing out that the definition of glass both in American and British dictionaries includes any substance resembling glass.

Well, court or no court, we'll bet that this manufacturer would be darn provoked if someone tried to pay for his product in wampum, which according to the dictionary, is "a form of money."

o o o

Don't Be Too Sure . . . Recently, a group of airline officials were discussing commodities available for air shipment. Looking out of the window, one executive noticed a large cement plant which was visible from the airport administration building where the meeting was being held.

"About the only thing we can handle out of here in large quantities is cement," he remarked.

Everyone laughed.

Payoff: A short time later, this airline actually hauled a load of cement. Over 1,000 lb. of it, from Chicago to Newark.

Moral: Don't ever say that a specific commodity will never move by air. The aerial weight lifting record for a single plane is 278,000 lb., which adds up to plenty of almost anything.

STRIPES ARE THE STYLE this season in tires as well as fashions. Joni Freeland points to the stripes of soft white rubber which cut across the tread of the Fisk Safti-Flight. Designed to bring a vehicle to a quick stop, the striped tire now is back for the first time since the war.

Every Day a Holiday . . . We've cultivated a pretty good crop of holidays—there's New Year's Day, Washington's Birthday, Memorial Day, Independence Day, and Armistice Day, to name a few. But these may be only the beginning.

A House Judiciary subcommittee, it seems, has been giving consideration to the establishment of Gen. Pulaski Day, Dedication Day, U. S. Marine Corps Day, American Indian Day, World War II Victory Day, National Heart Week, Grandmother's Day, National Farm Day, Constitution Day, Thomas A. Edison Day, National Freedom Day, and Shut-In's Day. All aboard for the "no-day week!"

o o o

Main Street Blues . . . Proprietors of sales and service establishments located in urban centers will find little encouragement in statistics released by George Romney, managing director, Automobile Mfrs. Assn. In Pittsburgh, for example, the average downtown daytime population has decreased by nearly 50,000 in 15 years. In St. Paul, 41,789 persons entered the downtown district by automobile on a typical day in 1937. The figure had dropped to 22,984 by 1946. Similar Minneapolis figures show 64,625 potential shoppers on a typical day in 1937, and only 37,233 nine years later.

The reason? Traffic congestion. And unless someone can solve the parking problem in the next few years, metropolitan storekeepers may have to call for and deliver customers as well as merchandise.

o o o

Missing Link . . . The benefits of palletization are becoming more obvious to those who have installed the system with each passing profit statement. However, there is one missing link in the chain of mechanized materials handling. Cartons coming off a conveyor belt must be stacked and cross-tied onto pallets by hand.

This antiquated method of loading pallets may be superseded soon by new equipment. Production Aids, Inc., North Hollywood, Cal., reports the development of a machine which automatically loads containers from a conveyor belt onto empty pallets. The machine is said to crosstie the cartons to make a complete and compact unit load. An illustration of the equipment will be found on page 76 of this issue.

The business of materials handling to date has been one of easing specific trouble spots after they become impossible to overlook—not of analyzing the handling problem in terms of opportunities for cost cutting.

A "How" Plan For Materials Handling

By S. W. GIBB

General Sales Manager
Philadelphia Division
Yale & Town Mfg. Co.

THE need for new methods of reducing handling costs now is more urgent than ever. The national mind—from housewife, to government official, to industrialist—is focused on the objective of driving prices down. No method is more obvious than cutting handling costs. But the question is "how."

In too few cases have top-grade men been charged with the responsibility of finding ways to cut the cost of handling materials. Manpower still is looked upon as the principal means available to unload common carriers, to supply machines, and to conduct storage and shipping operations. "Muscle Money" thus continues to inflate payrolls.

Here is a three-step plan for management to apply to handling

FIGURE 1.

(1) Description of Operation or Activity (Name kind of material handled, such as castings, pipe, rods, liquids, cases, bolts materials, etc.)	Handling Operation	(2) Move	Inspection	Temporary Storage	Permanent Storage	(3) No. of Men Required	(4) Distance Moved in Feet	(5) Time Required in Minutes	(6) Type of Equipment Used to Move Material from Location to Location (Manpower, conveyor, hand dolly, power truck, hand lift truck, hand truck, etc.)	(7) Load Capacity of Equipment (Pounds)	(8) LOAD CHARACTERISTICS: Load Shape	Length	Width	Height	(9) No. of Units in Each Load	(10) Total Weight of Each Load (Pounds)
UNLOAD PACKAGES FROM TRAILER TO FLOOR	○	○	□	△	△	2		20'	MANUAL						600	3,900
MOVE AND STACK IN ROW IN STORAGE	○		□	△	△	1	50	2'	HAND LIFT ELECTRIC PLATFORM TRUCK	4000	SKID BIN	48"	33"	25"	600	3,900
REMAIN AT STORAGE	○	○	□	△												
MOVE TO LOADING DOCK	○		□	△	△	1	50	2'	" " " " "	"	" "	"	"	"	600	3,900
TEMPORARY STORAGE AT DOCK	○	○	□	△	△											
PLACE ON TRAILER	○	○	□	△	△	1		1'40"	" " " " "	"	" "	"	"	"	600	3,900
MOVE TO MACHINE PROCESSING	○		□	△	△	1	1100	9'45"	TRACTOR TRAILER	40,000	" "	"	"	"	600	3,900
REMOVE BIN FROM TRAILER	○	○	□	△	△	1		0'40"	ELECTRIC FORK TRUCK	6,000	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	55'	2'30"	" " "	"	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	80	3'	HAND LIFT TRUCK	4,000	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	150	4'	ELECTRIC FORK TRUCK	6,000	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	80	3'	HAND LIFT TRUCK	4,000	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	100	4'	" " "	"	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	140	4'	ELECTRIC FORK TRUCK	6,000	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	125	5'	HAND LIFT TRUCK	4,000	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	150	6'	" " "	"	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	180	6'40"	" " "	"	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	40	1'55"	" " "	"	" "	"	"	"	600	3,900
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	75	3'	" " "	"	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO MACHINE	○		□	△	△	1	160	6'20"	" " "	"	" "	"	"	"	600	3,900
MOVE TO INSPECTION	○		□	△	△	1	200	7'30"	ELECTRIC FORK TRUCK	6,000	" "	"	"	"	600	3,900
INSPECTION	○	○	□	△	△											
MOVE TO TEMPORARY STORAGE	○		□	△	△	1	30	1'45"	HAND LIFT TRUCK	4,000	" "	"	"	"	600	3,900
TEMPORARY STORAGE	○	○	□	△	△											
MOVE TO FINISHED PARTS STORES	○		□	△	△	1	150	4'	ELECTRIC FORK TRUCK	6,000	" "	"	"	"	600	3,900
FINISHED PARTS STORES	○	○	□	△	△											
TOTALS	3	18	1	8	2	22	3015	97'45"	XXXXXXXXXX	XXXX	XXXX	XXX	XXX	XXX	12,600	81,900

Make a route diagram of the above handling activity on the graph section provided at the right . . .

operations. It was born of studies made by The Yale & Towne Mfg. Co., Philadelphia, and has been worked out in conjunction with Dr. V. S. Karabasz, Associate Professor of Industrial Management, Wharton School, University of Pennsylvania.

The plan is simple and logical—but the care and detail with which it is carried out will be the governing factor in its success. He who applies it must take it seriously and thoroughly. The net result of such diligence will be a clear picture, not only of the weak spots in procedure, but of the steps to be taken by way of correction—and of the dollar economies which will be effected thereby.

Management's first move in applying the Yale plan should be to appoint a staff—a staff instructed to scrutinize handling operations and costs with the same care and zeal that has led to such remarkable development of the processing techniques used thoughout American industry. And then the staff must be given the authority to do something about its findings!

In most cases, the accounting department will be of little help. Cost accounting systems, generally, do not set out separately the costs incurred in lifting, moving, and setting down again. It is common practice in time studies to absorb handling costs as part of "processing" cost, part of "department operating" cost, or part of "indirect labor payroll."

Sometimes the "staff" is best built from engineering personnel, sometimes from treasury, sometimes from production—and sometimes from the outside (specialists engaged for the job or new men taken into the organization for the purpose). It is often wise to organize a committee or a new department to tackle the job; but however the problem is approached, it is imperative to select men who are assiduous in detail, enthusiastic about opportunity, imaginative, and buttressed by authority.

Next, the staff should set about reducing to paper actual observed information and data. Here, organization of effort is most important. And it is in this phase of the work that the plan can be of maximum value.

One of the most useful means of spotting wasteful practices in materials handling—and of doing it in such a way that the cure is indicated—is to follow a procedure not unlike the "banding" of wild life to trace their migrations.

Select a sample incoming unit of some material or part or component or sub-assembly, one which is as representative of the overall operation as possible, and record its progress through its entire his-

(*Continued on Page* 82)

FIGURE 2.

Distribution Cost Analysis

Sales quotas should be based on the current potential buying power of customers in those commodities the salesman is selling. The preparation of estimates of this actual and prospective purchasing power may seem a burdensome task for commercial research and sales but experience has shown that it can be made the most productive of all forms of analysis.

Part 5

By L. M. NICHOLS

Member

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IN THE previous article emphasis was placed upon the importance of close cooperation between the commercial research director, representing the sales divisions, and the production and the financial departments in setting the budget at the most all-around profitable level. At the grass roots of any sales volume budgeting is the matter of realistic versus "blue sky" sales quotas. Realizable sales quotas, the attainment of which currently can be insisted upon by management are most vital. Nothing is more discouraging to salesmen and sales managers, and more misleading to the production and financial departments, than unrealizable, deliberately inflated "blue sky," sales quotas.

The basis of any reasonable sales quotas is the customers' current potential buying power in the commodities the salesman is selling. Comparison with industry figures may indicate that the company preparing its budget has obtained, or can reasonably expect to obtain, 10 percent of the available potential business in its lines of commodities, varying in individual commodities from five percent to 20 percent of the respective lines. Established relationships with various customers, actual and prospective, may indicate, of course, percentages of the individual customer's total purchases varying from nothing to 100 percent.

Working up estimates of each actual and prospective customer's purchasing power by commodities may seem to be a burdensome task for the commercial research department, sales managers, and salesmen, but experience has shown that it can be made the most productive analysis of all.

The commercial research department, working from basic data on each salesman's territory, should compile for that territory the indicated sales quota for each commodity to be sold by that salesman. While basic data in the past has been available for most consumer goods, it can similarly be developed for products used by industrials, public utilities, etc. For consumer goods the customary basic data used have been those developed by the Department of Commerce, various marketing organizations, and national publications. These methods of determining consumer buying power include analysis of "effective buying income," number of electric meters, separate family units, ration books issued, etc. For industrials in various industries the effect on buying power of various commodities can be evaluated, based on net worth, number of employees, floor space occupied, electrical horsepower of equipment used, current building or equipment expansion program, etc.

When these total customers' potential purchasing power figures have been developed for each salesman's territory, and the percentages of each commodity to be obtained applied, the total sales quota for each salesman may then be compared with the salesman's own estimate of business to be obtained by him from customers

assigned to him, analyzed by commodities represented.

In this checking process due allowance, of course, should be made for any "house accounts" not credited to the salesman. The salesman's own estimates may not make up the balance of the quota for the territory. This discrepancy may be due to deficiencies in certain commodities, and this obviously must be made up in corrected quotas for customers normally buying those commodities. On the other hand, the deficiency may well be due to the salesman's failure to include any sales, or sufficient prospective sales, to large potential customers not previously sold. It then becomes the sales manager's job to bring this deficiency forcibly to the salesman's attention as an essential part of his sales obligation for the year.

Even more important, is the equitable assignment of sufficient territorial or customer potential to each salesman, so that if he obtains his quota percentage of that potential business the resulting volume of sales and gross margin will give him total earnings in the form of salary, commission or bonus commensurate with his ability, experience, and competitive earning power. In the process of reassigning territories and customers to salesmen in a period of expanding business such as we are now experiencing, it is only fair to explain to the salesmen affected the reasons and necessity for these shifts. Otherwise a feeling of resentment—however little justification it may have—can seriously lower the morale and effectiveness of the sales organization.

Table "A" is an example of a basis for determining the number of salesmen and assignment of customers or territories to them.

Since the life blood of any business, manufacturing or wholesaling, is sales production at a volume sufficient to support the budgeted or economical capacity of the current organization, effective sales incentive plans are a most vital feature. To be successful, a salesmen's bonus or commission plan must attract and retain the right type of salesmen. In order to do this it must accomplish the following results:

1. Supply adequate current monthly income; 2. Avoid great fluctuation in salesmen's total income (limiting "windfalls"); 3. Be equitable among the salesmen; 4. Be in fair comparison to other salaries paid by the company and by competitors; 5. Be fair to the salesmen and supportable by the company at different levels of sales volume; 6. Furnish incentive to get the budgeted sales volume by commodity lines.

In order to have plans incorporating the above features, the trend has been away from straight commissions, or salary only (without commission or bonus incentive), or those requiring the salesmen to pay their own expenses. The more frequently used and most successful plans have a commission credit percent of sales or gross margin with an adequate current salary or drawing account charged against it, or in some cases specific bonus (in addition to salary) for making or exceeding sales quotas, by lines, to insure the sales necessary to absorb factory production at normal capacity or budgeted level.

The problem of devising a bonus plan for a sales manager which will not result in his total earnings rising to an amount out of proportion to other executives of comparable rank and importance, and yet will pay him in reasonable relation to the high earning salesmen under his supervision, is a difficult one.

Three major factors certainly should be taken into account in devising a bonus plan for a sales manager: 1. The production of gross margin dollars on sales by the sales organization under his supervision, in relation to that budgeted for the current year, and in relation to the actual average budget realization of other sales divisions in that year. 2. The percentage of the direct selling expense to the gross margin of his sales division in relation to the budgeted percentage of direct selling expense to gross margin, and the degree to which that percentage is better than that required to allow a normal over-all net profit taken in combination with all other distributing expenses. 3. The product "mix" or balanced sales production by commodity lines, in relation to that budgeted for the current year, an element so necessary to the profitable operation of the manufacturing divisions as budgeted or planned.

Each of the above-described factors may be recognized and performance on them rewarded by a graded point system translated into percent bonus on the sales manager's salary. It may be argued that this basis will cause a sales manager to press too constantly to have his base salary raised. This, however, is a policy matter for top management, and a sales manager's base salary should always be commensurate to his inherent ability and prevailing competitive base salary rates.

TABLE A

Potential Annual Purchasing Power of Customers Buying the Commodities Sold	% to be Sold by this Company	Sales Quota of this Company	% Gross Margin to Sales	Dollar Gross Margin
Commodity Group A—$10,000,000	10%	$1,000,000	18%	$180,000
Commodity Group B— 8,000,000	15	1,200,000	15	180,000
Commodity Group C— 16,000,000	5	800,000	20	160,000
		$3,000,000		$520,000

Normal % of gross margin to be paid as salary and/or commission to salesmen *		15%
Justifiable amount of such expense		$78,000
Number of each grade of salesmen justified:—		
Grade A—Salary and/or commission $7,000 each X 3		$21,000
Grade B—Salary and/or commission $5,000 each X 8		40,000
Grade C—Salary and/or commission $4,250 each X 4		17,000
	15	$78,000

* Excluding allowance for traveling and entertainment expenses.

Congestion . . .

(*Continued from Page* 38)

carry 9,000 to 12,000 in the same period and under the same circumstances.

As Charles Guernsey, vice-president, Marmon Herrington Co., speaking before the Detroit Section, Society of Automotive Engineers stated recently:

"The nation's traffic congestion problem is caused by trying to move too many vehicles rather than attempting to move a large number of passengers. The average automobile carries 1.7 passengers. A modern trolley coach or large bus will carry 44 seated passengers.

"Counting the necessary headway in a traffic lane, the automobile will take about 25 times as much street space per passenger as will a large public carrier vehicle. The answer is obvious. Congestion comes from the number of vehicles moved rather than from the number of passengers moved."

Coming Events

June 2-4—National Federation of Sales Executives, 12th annual convention, Biltmore Hotel, Los Angeles.

June 9-11—Grocery Mfrs. of America, Inc., mid-year meeting, Skytop Lodge, Skytop, Pa.

June 9-12—New York State Warehousemen's Assn., annual meeting, Westport Inn and Country Club, Lake Champlain, Westport, New York.

June 16-19—Canadian Warehousemen's Assn., 27th annual conference, Minaki Lodge, Minaki, Ontario.

June 16-19—American Society of Mechanical Engineers, semi-annual meeting, Stevens Hotel, Chicago.

Aug. 21-22—Society of Automotive Engineers, West Coast transportation and maintenance meeting, Biltmore Hotel, Los Angeles.

Highway Safety

The American Trucking Assns., Inc., will sponsor a series of meetings throughout the country to determine the trucking industry's views on impending revision of the Interstate Commerce Commission's safety regulations, it has been announced. The consensus will be used at Commission hearings on the changes, expected to be held this month.

The association has doubled the size of its national committee on ICC Safety Regulations, indicating the urgency and importance being placed in the proposed changes. The enlarged committee, attached to and a part of the ATA Safety and Operations Section, will work with the 53 affiliated state associations.

Good packing means satisfied customers.

Poor packing means lost sales; profits.

Union Pacific's program to improve the packing and packaging methods of shippers using its lines has not only cut loss and damage claims but has resulted in much additional business through the creation of good will.

Better Packaging Program

A YEAR ago, Union Pacific hired a packaging expert, Warren R. White, as part of its program for counteracting the ever-increasing burden of freight loss and damage payments. These payments in the aggregate cost the railroads in the United States between $80 and $100 million annually. Despite technological progress in virtually every field of railroading, the freight loss and damage curve has moved steadily upward. This condition was caused in large part by the war and by the shortage of competent packagers in industry and by inferior packaging materials. However, with the close of hostilities labor and material shortages were materially alleviated and agitation began to raise packaging standards. It was to keep in step with this trend and to assist shippers to solve packaging problems sure to arise that Union Pacific instituted its new service.

The war and reconversion years also had seen the founding of hundreds of new businesses, each of which had its own peculiar packaging problems. It was thought that these new organizations also could profit through the activities of a packaging expert. Mr. White, a container engineer for more than 20 years, came to Union Pacific from the Navy shortly after V-J Day. While with the Navy he designed and redesigned containers for use in the transportation of supplies. His approach to his new duties was direct, simple and productive of concrete results. The scope of his packaging activities involved a wide range of commodities including furniture, canned goods, hardware, textiles, automobile parts, caskets, water heaters, and cheese. Studies were undertaken embracing every known type of container. Crates, fibreboard boxes, wooden boxes, drums, bales, sacks, etc.

A first step in Union Pacific's container program was to investigate instances of container failure brought to the attention of the company's freight claim department or by observation of freight at stations, at point of origin, at transfer points, and at destination. Investigations also were started as a result of bad order reports submitted by railroad agents or because of specific claims received at Union Pacific freight claim offices. Much of the observation currently is made by the container engineer himself. Because of his activities, Union Pacific has noted an increase in efficiency on the part of its local freight inspectors and freight service inspectors. They are becoming more and more container conscious and have learned to recognize the basic reasons for packaging and container failure.

A second step is the analysis of failures. This is the heart of the company's damage prevention effort and the reason for its success. Without competent analysis of container faults the program would have no sure basis for improvement. When a container flaw is uncovered, the engineer prepares a report to be submitted to Union Pacific's general freight claim agent. To date, hundreds of these reports have been filed and action taken. In many instances, reports and recommendations are accompanied by drawings or photographs.

Letters then are written on the basis of these reports to the shipper, receiver, or manufacturer or to whomever is responsible for the faulty container.

The letter describes the damage, analyzes the trouble, and suggests corrective measures. Such letters are written in a spirit of friendliness and helpfulness and aim to guide and to assist rather than to criticize. Finally, when circumstances so warrant, the engineer calls in person on the shipper or the receiver or both and makes

specific recommendations to executives and engineers. Of course, all container failure cases do not warrant personal calls; generally a letter is sufficient. In other cases, on-the-spot contact has proved valuable in the remedy of serious defects.

A personal visit by the engineer has played a large part in the successful outcome of serious damage cases. One instance involved three cars of water heaters shipped by a west coast concern to a distributor in a city nearly a thousand miles away. When the heaters arrived they were so badly damaged they had to be returned for repairs. But before they were returned, they were inspected by Union Pacific's container engineer, who in his minute inspection of the heaters recognized that the damage was caused by the failure of improperly designed crates. The engineer visited the manufacturer and suggested certain changes in the design of the crate to decrease the possibility of damage.

The suggestions were adopted with the result that subsequent cars of heaters arrived at their destination without damage. Another case concerned stoves, manufactured in the east, which had a consistent record of damage in transit. After a thorough investigation, the container engineer decided that certain changes in the method of packing would prevent weaving in transit and the chipping and cracking of the enamel. A conference between the engineer and the manufacturer resulted in the proposed recommendations being adopted. Since then, shipments of this particular stove have been made without damage.

Results

In evaluating the results of the Union Pacific's container engineer experiment, company officials are of the opinion that benefits have resulted in several directions. Although it is not possible to appraise this work in dollars and cents, the improvement in container and packaging methods has prevented recurring claims which might have aggregated many thousands of dollars.

The program also has effected savings in commodities, many of which are valuable beyond their price in that they are in the scarce category. At the same time, manufacturer-to-consumer distribution is speeded by the elimination of delay resulting from the necessity of replacing lost and damaged items. An indirect result is the creation of additional business for Union Pacific. Through the medium of safer shipment, good will is generated since shippers and receivers appreciate the railroad's efforts to provide damage-free passage for their goods.

Governors Favor Highway Economy

Reflecting a general "hold-the-line" highway policy, governors of states currently having legislative sessions have in their messages generally spoken for economy in their state highway programs and have, on the whole, been reticent to ask for increased tax burdens upon highway users. In a digest recently compiled by the National Highway Users Conference of those parts of the governors' messages pertaining to highways, only four state governors have gone on the record as favoring increased motor fuel taxes.

In addition to those favoring increases on motor fuel taxes, only three governors have recommended increases in license and registration fees. In the case of only one state, Maryland, has the governor recommended road and bridge tolls as a means of raising additional revenue for highway construction.

Governors of nine states have stressed the need for additional funds from bond issuance or other varied sources to finance highway expenditures. However, in the majority of cases governors have reported surpluses or adequate revenues for present highway programs. Two state governors, the digest shows, favor increased motor vehicle reciprocity and three have stressed the need for using highway funds for highway purposes. Only in New York does the governor favor outright diversion of highway funds to help finance bonuses for veterans. In general, most governors stress the need for increased economy, promotion of the tourist trade, and safety measures. Two governors have declared in favor of adopting provisions of the Uniform Motor Vehicle Code.

To provide additional facilities for its transportation services, the Southern Pacific is providing more than 60 million dollars' worth of rolling stock and modern materials handling equipment.

SP's Expanding Services

By K. C. INGRAM
Assistant to the President
Southern Pacific Co.

THE Southern Pacific Co. is providing additional facilities for the improvement of its transportation services in the west and southwest. Since V-J Day it has ordered or taken delivery of more than 60 million dollars's worth of new rolling stock and now is requesting bids on 6,200 additional new freight cars. If all this equipment were to be coupled end to end, it would make a solid train more than 152 mi. long. Some of it has been delivered already, and we hope to have most of the remaining units in service within another year. It has taken courage to finance the new equipment in face of high costs. Some of Southern Pacific's costs, the price of cross ties for example, have advanced almost 300 percent in the past eight years. On the average, today's dollar buys one third less in the railroad field than it did in 1939. The new rolling stock is being financed despite a drop in railroad income.

The average unit freight service charge to the shipper is only 17 percent higher than it was in 1939, and the average charge per unit of passenger travel is only about six percent higher than in 1939 (the last year before defense and war traffic affected the railroads) while in the same time average costs have risen 50 percent.

Southern Pacific has already obtained delivery of enough new freight cars to make its freight car fleet about 10 percent larger than at the end of 1939; but compared with the much greater increase in freight traffic there is still a freight car shortage. How long the shortage will last is hard to say. In the meantime, the best way that substantial additional hauling can be accomplished is through the increased utilization of existing equipment. The railroads are all endeavoring to do their part toward this goal by speeding movement along the rails, by reducing delays in terminals, by expediting repairs, and by having agents urge shippers to dispose of arriving loads quickly.

Shippers can help themselves and the railroads by faster loading and unloading of cars; by promptly notifying the railroads when cars will be ready for movement; by advance planning of shipments from point of origin; by not sending a consignee more cars than he can handle; by loading or unloading cars on Saturdays and also on holidays, where possible, to prevent the cars from standing idle.

Shippers can also help by making certain that their goods are properly boxed or crated, well packed, and plainly and durably marked. Failure in any of these respects increases chance of damage or loss. From the viewpoint of the railroads, the possible resultant claim against them is not as serious as the possible resultant loss of the shipper's goodwill, even though the fault be his.

Machinery sometimes requires elaborate crating to protect all its protuberances. Glassware needs tight packing and padding. Box engineers can be consulted to design the best type of container for any type of shipment. Care should also be taken by the shipper to see that each separate container or package is clearly marked with the names and addresses of the consignee and sender, to insure delivery or return. Some items,

like pipe and steel rods, are more difficult to mark than others. In such cases, metal or linen tags attached to each bundle can be used. The shipper can also help himself and the railroads by writing bills of lading on proper forms and making certain that all copies can be easily read.

Technological progress has been responsible in a large part for the railroads' ability in recent years to carry more goods and people than ever before, and do this with less equipment. Southern Pacific, for example, has made installations for centralized traffic control on more than 400 mi. of strategic single track, giving this track about 75 percent of the capacity of double track. Centralized traffic control obviates the use of train orders and eliminates the necessity for handling track switches manually.

Seated in front of the CTC machine at his central or control point, the dispatcher can see the location and follow the progress of each train in his territory by means of the series of train-actuated lights on his track diagram and the train graph on his CTC machine. He advances the movement of the trains and arranges for perfect meeting or passing points between trains by moving small levers and pressing buttons which remotely control wayside signals guiding the enginemen. Through other remote controls he operates the track switches electrically so that no stops are required for trainmen to line up switches and practically no delay is caused the trains at meeting or passing points. Close timing is sought in CTC and non-stop meets occur with surprising frequency through expert handling by dispatchers and train crews. Because the enginemen are guided by the wayside signals in CTC territory they save the time ordinarily required by the handling of written train orders.

Another modern device of interest to the railroads is radio. Since the middle of 1944 numerous tests have been conducted on Southern Pacific lines to determine the practicability of radio in railroad service, and some installations

(*Continued on Page* 86)

Freight Rate Primer

(*Continued from Page* 22)

1. The value of the goods, their intrinsic value;
2. The value of the transportation service, measured by the value added by the transportation service by increasing the place utility value of the goods;
3. The nature or state of the article, whether crude, semi-finished or finished;
4. The rates on similar or competitive commodities;
5. The market or commercial competition;
6. The effect of the rate upon the development of the movement of the goods; and
7. The general level of prices and values.

Rate-making does not consist in applying these factors or considerations with weightings to accent their relative importance, but of molding a rate with all of them in mind. It is not a process which when once done is a completed task. On the contrary, changes in the relative importance of these factors make reconsideration necessary, again and again and again.

The classification of freight is a preliminary and essential step in rate-making. Classification is something like the assorting of coal into sizes or grades. There are about 10,000 different articles, many of them in several or a number of varieties, in many different types of containers, and in varying unit quantities offered for shipment between about 80,000 shipping and receiving points. If individual rates had to be made from and to each of these points of origin and destination, the number of rate calculations would be expressed in figures usually associated with astronomy.

Classification assorts these commodities into groups for rating purposes of goods of similar transportation and commercial characteristics, so that the thousands of commodities are reduced to a limited number of class ratings.

There are eight class ratings higher than first class from 1¼ times first class to four times first class, in the three major Classification Territories, Official, Southern, and Southern Freight Classification Territories, and in an overlapping Territory, Illinois Classification Territory. These classes are designated as follows: 1¼, 1½, 1¾, D1, 2½ T1, 3 T1, 3½ T1, and 4 T1. They are used for a relatively small number of relatively valuable, fragile, or light and bulky articles. The class ratings, first class and lower, in the respective classification territories are:

Territories	Class Ratings, First Class and Lower
Official and Illinois	1 2 (R.25-3) R.26 4 5 6
Southern	1 2 3 4 5 6 (7-B) (8-A) (9-C) (10-D) 11 12
Western	1 2 3 4 5 A B C D E

In 1945, the Interstate Commerce Commission, in its decision in Docket No. 28310, Consolidated Freight Classification, ordered the carriers to establish a uniform classification applicable throughout the United States and a total of 30 class ratings ranging from "Class 400," that is 400 percent of the first class rate, to "Class 13," or 13 percent of the first class rate.[a]

It will probably take several years for the carriers to work out and put into effect the new uniform classification. They have informed the Commission, as required by its order, of their intention to procede with its compilation as rapidly as possible.

A sketch map of the general boundaries of the Official, Southern, Western and Illinois Freight Classification Territories is shown in Figure No. 1.

In making freight rates it is impossible to allocate costs accurately to each service and commodity because of the complexity of the operations. What are called joint costs occur when in one operation, such as the operation of a freight train, a vessel, or a motor truck, a number of different services are performed at the same time so that it is impossible to state precisely how much it costs to transport each commodity or to perform each service. Trains, vessels, and trucks must be brought back to the centers for which they are operated so that total costs of each service should be computed on the basis of performing the round trip, and traffic is sought to produce revenue for the return load. In like man-

[a] I. C. C. Docket No. 28310, *Consolidated Freight Classification, Part I*, decided May 15, 1945, (262 I. C. C. 447), 1945.

Cuts Handling Time 50%

Packaged glass, woodwork, window sash and other builders supplies flow by force of gravity from boxcar to warehouse at the Hartwick-Woodfield Co., Jackson, Mich., enabling handling time to be cut 50 percent. Formerly, the material was moved in batch lots from car to warehouse with a yard truck.

ner, the same railroad car or train, or vessel, or motor truck may contain many shipments of different articles transported under conditions of joint cost. The total costs of performing the services must be apportioned among the commodities transported according to the relative demand for transportation service; that is, according to what the traffic will bear.

As a general statement of tendency, it may be said that within certain limits, as the amount of traffic transported increases, there is a tendency for the costs of transporting each unit of traffic to decrease. This is due in part to the more efficient utilization of the capacity of each transportation unit—freight car, motor vehicle, vessel, or barge—and of the improved utilization of the entire capacity of the railroad, steamship, or barge operators, or motor carriers. It occurs also when the fixed charges or costs of the fixed plant are distributed over a large number of units of traffic transported. This tendency toward reduced unit costs or increased return to the carriers is offset by additional operating costs due to congestion, or until the plant facilities are increased and additional fixed charges must be covered.

In freight rate-making the maximum that can be paid in freight rates is determined by their value and the value created or added to the articles by moving them from one place to another—what has already been referred to as the creation of place utility. Carriers will tend to fix rates, in the absence of effective competition, at the price which will yield them the maximum net return; that is, rates will tend to be fixed at levels which will cause the largest amount to move at unit costs which will cover and more than cover all operating and other expenses and make possible the largest net return upon investment. This is sometimes called "what the traffic will bear," or "what will move the traffic in maximum quantities," or "what will produce the maximum net revenue."

Minimum rates are those at the other extreme which yield little more than the "out-of-pocket" costs of performing the services; that is, the additional expenses incurred if the service is performed which would not have been borne by the carrier if the particular movement of freight had not taken place. Such rates just give the carrier "a new dollar for an old one." If rates fall below this level, the burden of producing sufficient revenue to defray operating expenses and a fair share of fixed charges and reasonable return upon the property used in the transportation services is shifted to other commodities or movements of traffic. Such rates are said not to be compensating; that is, insufficient to cover and more than cover "out-of-pocket" costs.

Reasonable rates cannot be said to be exact figures, but rather at any one of a series of points within a zone or band of reasonableness between reasonable minimum rates and reasonable maximum rates. The precise points within this zone of reasonableness at which particular rates or charges are fixed is a matter of managerial discretion or judgment. The Interstate Commerce Commission may in particular cases order maximum and minimum rates to be fixed at the same amount, which becomes then the specific rate to be charged.

(To be continued next month)

Trailers Available

Taking note of transportation difficulties reportedly growing out of an acute railroad boxcar shortage, Julius L. Glick, president, Truck-Trailer Mfrs. Assn., suggested recently that shippers consider the possibilities of utilizing highway freight trailers to overcome the worst delays.

"It has been estimated that a single tractor semi-trailer rig on relatively short hauls can do the work of five boxcars," Mr. Glick said, "This is because the highway vehicle has greater flexibility and quicker turn-around time. A sizeable number of wise shippers who operate commercial vehicle fleets use two or three trailers per tractor, thus enabling them to spot one trailer for loading and one for unloading while the power unit is at work pulling a third vehicle. For-hire fleet operators, of course, long have known the advantages of trailer use.

"Few people realize that the truck-trailer inventory picture is better than the general automotive inventory situation and that anyone desiring to obtain a trailer probably could get one, or more, from today's stocks on hand. Our industry inventory is not yet back to prewar volume, but we are rapidly approaching that level.

Congress and Railroads

(*Continued from Page* 17)

eign needs, over prices, transportation, and over materials. It will be necessary to mobilize again industrial facilities for military production. It is certain that business men again will come to Washington to help run certain functions of government; and that business men again will be compelled to turn to Washington with many of their problems.

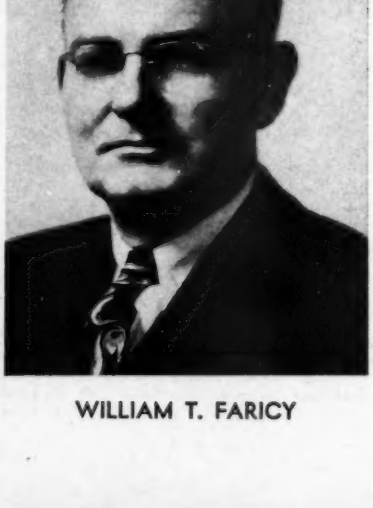
The Bulwinkle Carrier Agreements Bill was passed by the House of the 79th Congress toward the end of last year by an overwhelming majority. It was all set to go through the Senate with equal ease; but it did not come on the calendar until Congress was almost ready to go home. The legislation congestion was extraordinary. The leaders had to determine which things actually came first; and in this last minute pulling and hauling the Bulwinkle Bill had to be sacrificed. The Senate version, the Reed Bill (S. 110), was quickly reported out of the Senate Interstate Commerce Committee, after hearings in February. But the House Interstate Commerce Committee has not even begun hearings; and at present there is no inclination in that Committee to do anything about it until the major legislation priorities are out of the way. In the Senate Committee there was practically no real opposition among those who testified in the hearings. The only definite protest came from the Department of Justice, which insisted the Carrier Agreements would be a violation of the traditional anti-trust laws of the nation. The proponents showed that for more than two generations the railroads have functioned through conferences to formulate proposals, submitted to the ICC, for changes in rates and service. For the past 28 years, shippers worked under a plan providing systematic published notices of all rate changes, and providing opportunities for hearings. Motor carriers used the same system after the enactment, in 1935, of the Motor Carrier Act. Only within the past 10 or 15 years has the propriety of the procedures been challenged. The ICC, as a matter of fact, is reported to have encouraged the procedures. Only since the advent of the New Deal has the Department of Justice stigmatized the system as a violation of the anti-trust laws, and started various court actions. The Reed Bill, reported out of the Senate Committee, would validate the traditional practices of the carriers, with certain restrictions to insure compliance with anti-trust laws. The Bill would eliminate the insecurity stemming from Department of Justice actions and would make clear the authority of ICC to approve the traditional procedures. The hearings in January and February brought out the highly complicated structure of the hundreds of thousands of individual railroad freight rates and through routes.

Many roads are in competition with one another. To work out adjustments there must be conferences among the carriers. Discrimination must be reduced to a minimum to conform to ICC laws. The carriers cannot act independently and the detail is too great for the ICC. Rate conferences, under the Reed Bill, are designed to meet this problem. Safeguards are provided to preserve independent action for every carrier who disagrees with the decisions of the majority. When rates have been formulated jointly the multitude of different tariffs are superseded by the joint tariff. Shippers, large or small, are eligible to participate in the hearings of the carriers when joint rates are crystallized. Before the proposed joint rates are filed with ICC they must undergo a process of public scrutiny. Should the ICC conclude that a rate is improper, under the terms of the Reed Bill, the ICC will have the power to compel any changes (and to revoke any action) in the public interest.

Motor carrier rates and motor carrier bureaus parallel railroad procedures. The new proposed law is deemed especially advantageous to the great number of small motor carrier operators who supply much of the service. They are not individually equipped to cope with complex rate-making. The Reed Bill takes cognizance of the need among carriers to work out schedules and to transfer units of transportation from one system to another. It also provides for exchange of information about equipment, service improvements and safety measures. Special serv-

He Won't Dodge Trouble . . .

The Assn. of American Railroads, Washington, D. C., has elected as president William T. Faricy, vice president and general counsel of the Chicago and North Western Railway. He succeeded R. V. Fletcher, who acted as interim head, after the death of John J. Pelley last November. Mr. Fletcher continues as special counsel in the current anti-trust litigation. When he was elected, Mr. Faricy told interviewers that the Association is not looking for a fight with Robert R. Young, head of the Chesapeake & Ohio Railroad, who sponsors a new organization known as the Federation of Railway Progress. "But," added Mr. Faricy, "we're not going to run away from any fights, either." He said the Association had no quarrel with the stated objectives of the new trade group. He stressed that the federal government had more to gain from prosperous railways than from impoverished railways, and that the railways should be assured of the certainty of six percent return. He holds that operating costs in the months ahead should determine freight rate increases in the immediate future.—A. Kruckman.



WILLIAM T. FARICY

ices, schedules, and other competitive elements of service, which might interfere with general stability, as well as with safety, must, under the Reed Bill, be approved by the ICC. The hearings brought out that under the terms of the Reed Bill it will be possible, with ICC approval, to solve the vexing problem of simultaneous departures of trains from one large city for another large city over a number of competing lines without enough business to justify use of all trains. It is desired to eliminate waste by staggering departures. The Senate Committee double copper-riveted the Reed Bill by making an amendment which requires ICC to give specific approval of all service arrangements which stem from any general agreement. The proposed law enables the ICC to modify or discontinue any rate or service charge adopted by a conference, whether or not specifically approved by ICC. It also provides safeguards against coercion by the declaration that any carrier not a party to an agreement is free to act. Nor may carriers of different forms make conference agreements except as to through routes, joint rates, and classifications. The Reed Bill provides that carriers remain subject to the anti-trust laws unless agreements have been approved by ICC. The language of the Bill is as follows:

"No agreement approved by the Commission under this section, and no conference or joint or concerted action pursuant to, and in conformity with such agreement as the same may be conditioned by the Commission, shall be deemed to be a contract, combination, conspiracy, or monopoly in restraint of trade or commerce within the meaning of the anti-trust laws."

It also provides:

"No approval by the Commission under this section shall be so construed as in any manner to remove from the purview of the anti-trust laws any restraint upon the right of independent action by means of boycott, duress or intimidation."

Senator Reed himself is authority for the statement that if 50 years of usage is not deemed to have established the precedent for carrier agreements, the precedent was established definitely in the Shipping Act of 1916, covering ocean carriers; and in the Civil Aeronautics Act of 1938, covering

air carriers. Under the Reed Bill, rail, highway, and inland waterway carriers would be given the same freedom for concerted action now enjoyed by ocean and air carriers.

The Bill applies to freight forwarders as well as to common carriers; to express companies, sleeping-car companies, pipe-lines motor vehicle carriers, and water carriers. The Senate Interstate and Foreign Commerce Committee issued a statement in March making clear that:

"Any person is given the right to complain to the Commission of any action taken pursuant to an approved agreement and the Commission is authorized, with respect to the particular action complained of, to withdraw or modify its approval or to impose additional conditions on its approval.

"The broad purpose and objective of the bill is to provide means for removing and avoiding conflict between the national transportation policy and the policy of the anti-trust laws, and in that way to bring an end to the confusion, uncertainties, and inconsistencies which now threaten serious harm to all interests, particularly to shippers, who are concerned with an adequate transportation system capable of rendering economical and efficient service to the public under reasonable and non-discriminating rates."

Sen. Clyde Martin Reed, the author of the bill and of the majority Senate report, is one of the most highly respected authorities in the Mississippi River Valley on technical and legal problems of rate, freight, and overall transportation problems. He has been a governor of Kansas, a judge of its Labor court, and he owns a newspaper in that state. He takes himself very seriously, has a keen and vigorous mind, and is one of the four or five Republicans in the Senate who are distrusted politically by the other Republicans because they will never stand hitched and are usually expected to vote against issues championed by the party leaders. It is this little minority that has made Republican domination of the Senate so insecure. Without a similar group on the Democratic side, the Republicans often would be lost.

Another Republican maverick, one of the four or five, Sen. Charles William Tobey of New Hampshire filed a dissenting minority report, attacking the Reed Bill. Tobey is usually on the side of the minority, despite the fact that he has been an outstanding industrialist as the active head of a shoe manufacturing corporation. He has a fine, brilliant mind. He opposes Reed's Bill because it would "give the railroad, motor carrier, pipe line, and freight forwarder industries the opportunity of obtaining complete exemption from the anti-trust laws. Such legislation would be an opening wedge in entirely destroying the anti-trust laws, designed to guard and preserve the American system of free enterprise."

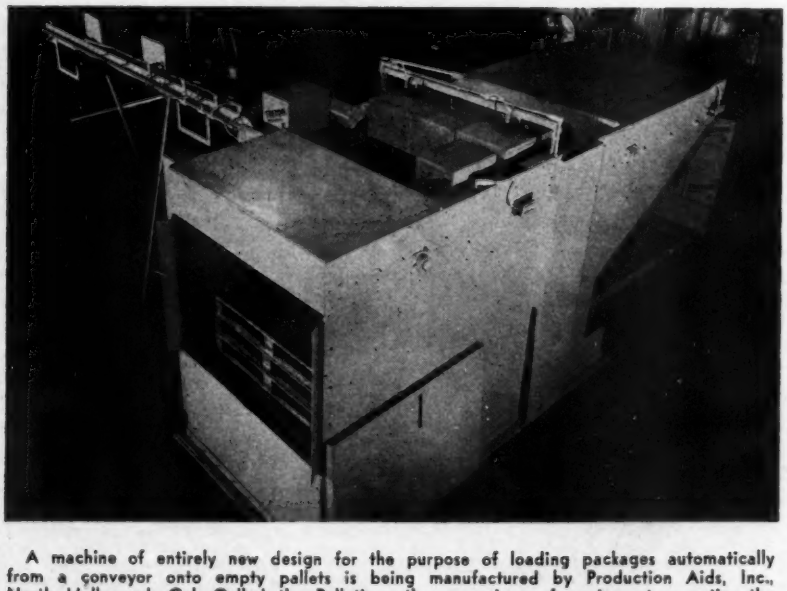
He thinks the proposed law is aimed at depriving the court of jurisdiction in pending cases instituted by the State of Georgia, and the suit at Lincoln, Neb., where the federal government is seeking to enjoin the functioning of a bureau integrated from all elements involved in transportation. He regards the purpose of Reed's bill as federalized cartelization. He thinks the bill will permit the transportation industry to set and perpetuate a private government which might conduct all functions of the industry free of real control. He holds that competition would be eliminated completely from all parts of the transportation industry.

"This bill, which would delegate to the ICC authority to delegate to a private government powers to control every aspect of transportation, could vest in the private government powers greater than those exercised by the Commission itself. The adoption of this bill would result in the worst kind of special legislation for special interest. It would constitute the most dangerous precedent which could henceforth be used to justify the exemption of any or all industries from safeguards of the anti-trust laws. The pursuit of such a program inevitably means the extinction of the free and competitive economy of the United States."

There is a feeling here, even among railroad and transportation representatives, that public interest in the Carrier Agreement legislation has faded measurably, and that it will be difficult to revive enthusiasm until present basic national and international issues have been decided.

Meanwhile, the ruling expected

Automatic Pallet Loader



A machine of entirely new design for the purpose of loading packages automatically from a conveyor onto empty pallets is being manufactured by Production Aids, Inc., North Hollywood, Cal. Called the Palletizer, the new piece of equipment cross-ties the packages to make complete compact pallet loads which are ready to be handled by fork truck. The containers can be assembled or stacked in various arrangements, according to the size and number of packages to be loaded on a given pallet. The machine is completely automatic in operation, and it is equipped with automatic safety provisions.

from the Supreme Court in the Georgia rate case, instituted by former Gov. Ellis Arnall, and the parallel case instituted by the Southern Governor's Conference, was not rendered in March. It is expected to be handed down in April. Some decision also is expected on the attack by the New England Governors upon the ICC ruling increasing "official" (eastern) territory freight rates 10 percent, and decreasing southern and western rates 10 percent. The Department of Justice has intervened in all cases on the side of the south and west.

An unusual number of bills were introduced in Congress since the session began in January affecting railway and transportation problems. With S. 935, Sen. Cordon, Oregon, would amend the Interstate Commerce Act to extend from two to three years the period of limitation on actions for undercharges or overcharges by or against railroad carriers, common carriers, motor vehicle and freight forwarders. H. R. 2613 would require classification of freight, adjusted so as not to discriminate among regions or territories of the United States; another overcharge corrective measure was introduced by Rep. Wolverton, head of the Interstate and Foreign Commerce Committee, H. R. 2325. H. R. 2295 aims at the same purpose, as does H. R. 2166, and H. R. 2759. S. 446, introduced by Sen. Wherry, Nebraska, would amend the ICC regulations to establish rules and regulations for car service by railroads. H. R. 2298, introduced by Chairman Wolverton of the House Interstate and Foreign Commerce Committee, would amend the Interstate Commerce Act to tighten the fiscal responsibilities of the transportation industry. H. R. 2297, introduced by Chairman Wolverton, imposes regulations upon the administrative machinery of the transportation industry. H. R. 2324, another bill introduced by Chairman Wolverton, is designed to increase the liability of all common carriers, motor vehicle, water, and freight forwarders, for payment of damages to persons injured by them through violations of the Interstate Commerce Act. Bills introduced by the Chairman of Committees are regarded as official objectives of the Committees themselves, and are considered as serious proposals in the Capitol. H. R. 2098 is intended to increase safety for employees and travelers by requiring railroads to maintain tracks, bridges, roadbed, and permanent structures in safe and suitable condition. H. R. 2123 would amend the Locomotive Inspection Act to increase safety by giving the ICC authority to employ more persons to augment the inspiration facilities of the federal government.

Col. John P. Johnson, general manager of the Alaska Railroad, after one year's service, was highly commended by the Secretary of the Interior for great improvements and for the economical administration of the railroad. The rehabilitation includes rate reductions, better equipment, and better labor relations.

Material shortages continue to interfere with adequate and anticipated increase in production of railroad cars, according to government sources. Railroads are reported to be now seeking 131,600 new freight cars and the situation in passenger car supply is still worse. WAA recently announced it would sell 2,300 special troop sleeping and kitchen railroad cars.

New Allied Head

Oscar W. Thomas, president, A-B-C Fireproof Warehouse Co., Kansas City, Mo., has recently been elected president of Allied Vans, Inc. Prior to his election as president, Mr. Thomas served as chairman of Allied's by-laws committee. He was a director and vice president of the National Furniture Warehousemen's Assn. a number of years ago. For many consecutive years, he has served on the executive committee and as a director of Allied Van Lines.

Mr. Thomas is a native of Missouri and he was admitted to the bar in 1912. A-B-C numbered Mr. Thomas among its first employes. He served as vice president and treasurer for many years before succeeding to the presidency upon the death of S. C. Blackburn, a former president of the National, in October 1942. Civic and community affairs have also played a prominent part in Mr. Thomas' busy life. He has been president of the Kansas City Rotary Club, president of the Kansas City Council of Boy Scouts, vice president and director of the Chamber of Commerce and a member of the City Plan Commission of Kansas City.

At the present time A-B-C operates five warehouses in Kansas City.

Chain Store Shipments

(*Continued from Page* 30)

As the result of these conditions, there are many rail schedule delays. Company experience indicates that many l.c.l. shipments of about 1,000 mi. are requiring 16 or more days. A handful of recent l.c.l. invoices pertaining to shipments over one line showed the following enroute periods to Chicago: 21 days from Pittsburgh; 14 days from Philadelphia; 13 days from New York; 17 days from Toledo; 24 days from Newark; 16 days from York, Pa.

Recent rail shipments from the near South to Chicago have required six or seven days, as compared with only three days by truck. Truck loads of perishables from California to Chicago take five days, as compared with nine to 16 days when shipped by refrigerated rail cars. We recently investigated a carload rail shipment from Seattle to Chicago, which was supposed to take seven days, but actually took 14. This and other investigations have indicated that most time is lost at transfer points and terminals and that the lines as a rule, have been maintaining road speeds which should enable them to maintain schedules.

The current rail situation on occasions has forced League members to resort to desperate relief measures. One member was forced to use railway express which involved an extra cost of $10,000 a month. Numerous similar cases could be cited. For example, inability to get refrigerator cars has forced members to chance shipment of canned goods by box cars and run the risk of heavy losses through freezing. Lack of rail facilities forced another member to half-time operation of an important processing plant.

During the early days of the war, I was asked to submit to the Chain Store Traffic League a series of traffic relief suggestions. They included some relating to the methods of my own company. Nevertheless, I believe that some of my recommendations apply to today's conditions. Hence, I am summarizing those which relate to rail shipping.

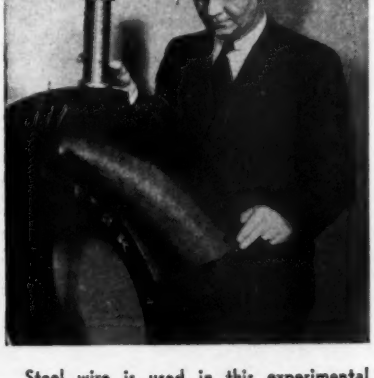
1. More cooperation between traffic men and buyers . . . In our company the traffic department works closely with purchasing in order to make certain that all shipping instructions and routings provide the most expeditious shipping channels. This cooperation is based on the theory that buyers and traffic men must mutually understand the problems of each other if there is to be more efficiency in the flow of goods into warehouses and stores. When the "know how" and experience of both departments is coordinated, goods can be shipped in a way to ensure scheduled delivery at the lowest possible cost. Our offices are arranged so that the desks of traffic personnel are near the desks of the buyers. This proximity encourages the discussion of mutual problems. Decisions affecting carriers and routes are easily reached. Problems involving kinds of shipping containers needed for safe deliveries are solved, as are many other problems in freight classification, storage-in-transit, terminal warehousing, or final distribution. Duplicate copies of all merchandise orders go to the traffic department with the result that any changes deemed advisable can be discussed with our buyers and the vendors. This program has helped to train our buyers and sales department to think in terms of what commodities will cost per unit of goods placed in stores.

2. More efficient use of pool car loading. During the war our company frequently cooperated with other firms in pooling carload shipments of goods from the same source. We considered it intelligent and patriotic to join even with competitors in the cooperative handling of such merchandise. This cooperation resulted in substantial economies since it meant carload rather than l.c.l. or 100-lb. rates. Pooling operations were accomplished in part through the agency of consolidating concerns at terminals and other markets. They enabled us to hold down shipping costs and also enabled the rail or motor carrier concerned to handle freight more rapidly, thus saving in operating time and space.

3. More use of the least-congested routes. It is our practice to carefully check each shipping order, to make certain that the routing to be selected will be the "most expeditious," but this does not necessarily mean that it will be the most direct route. Our war-time shipping experience often proved that the most direct road might be the most congested and that it is sometimes better economy to select a less-direct route. Usually there are at least three routes with comparable rates available from which to choose.

4. Prompt unloading of cars. We have display posters in our warehouses calling the attention of personnel to safe and prompt ways to handle merchandise. Our transportation superintendents also conduct schools for the training of workers in such services. We feel that such efforts have been of importance in promoting more economical handling of merchandise and savings in demurrage costs,

Fewer Flats!



Steel wire is used in this experimental tire developed by United States Rubber Co. for use on heavy trucks. Strength of the steel makes tire more resistant to blowouts, while use of fewer plies results in a cooler running carcass. Tire in photo has been cut away to show top ply of wire cord. Holding a spool of the wire is Arthur E. Benson, of U. S. Rubber's tire development department.

but also in expediting the release of freight and refrigerator cars.

It has been necessary of course for our company to supplement available rail shipping services by a considerable increase in motor trucking transportation. These supplementary services have included use of common carriers, contract carriers, and our own fleet of about 150 company owned and operated motor trucking units.

Our company has experimented in the use of air-freight shipping. These experiments involved the use of air transport in shipments of frozen fish from Boston and of other perishable products from Arkansas and Louisiana. Present air cargo shipping rates however make this type of transportation uneconomical.

As to long-distance motor truck transportation, to supplement and relieve the present rail transportation congestion, we feel that the future offers still greater service possibilities. Our experiences to date indicate that the most efficient service distances for motor truck shipping is up to 500 miles. However, as stated, motor truck shipments usually have been proving more reliable than rail shipments for distances up to 1,000 miles and more because of delayed schedules. The development of long-distance motor trucking which can compete favorably with present rail shipping seems a possible development. Some trucking operators seem confident that a fleet of motor trucks could maintain fairly reliable five-day California-Chicago service schedules, as compared with present seven-day rail schedules which currently are stretching into nine to 16 days. Moreover, the 32-ft. refrigerated truck trailers of today can transport approximately the same cargo being carried by the average rail refrigerator car.

As previously stated, our company favors the use of rail shipping whenever it is economically possible. However, as indicated, three major difficulties have been forcing our company more and more to competing types of transportation: these are (1) freight car shortages; (2) inability of railroads to maintain schedules; and (3) rail rates often out of line with for-hire equipment.

Community Shipping

(*Continued from Page* 25)

size mimeograph sheets of closely typed copy. The first issue was distributed May 31, 1946. The publication carries brief news paragraphs on local and national traffic developments, and reminders on recent or pending transportation problems and changes. These weekly issues are supplemented by the timely issuance of news letters which report technical details on all important hearings and rulings, proposals of rate changes, and shipping embargo changes of local interest. During the course of a year these news letters accumulate into a volume of 800 or 1,000 pages and have important reference value; therefore we supply an annual classified index.

A review of the last index shows that during the recent postwar period we have been giving special attention to the following general traffic problems: 1. Transportation carrier rate changes. 2. ICC and ODT embargo orders. 3. Shipper adjustments to freight car shortages. 4. Rail and motor carrier schedules, including the Chicago Package Car System. 5. Rail and truck loss and damage claims. 6. General transportation improvements. 7. New transportation developments.

Our transportation department has been active in keeping before Chicago shippers the present critical freight car shortage. Recent research has indicated that any general improvement during 1947 is unlikely. We have been advising our local shippers that a transportation breakdown can be avoided only through the fullest shipper-carrier cooperation. This must include constant attention to the prompt loading and unloading of freight cars. Our investigations have shown that the nation's rail carriers owned fewer cars in 1946 than in 1945. Also that in 1946 a still higher percentage of the cars owned were in unserviceable condition. Statistically stated, the carriers in Aug., 1946, owned 1,760,645 cars, and 4.1 percent of them were unserviceable. In contrast, in August 1945 they owned 1,782,362 freight cars, and then only 3.2 percent of them were unserviceable.

According to our records our local Chicago shippers have been giving carriers splendid cooperation in the loading and unloading of freight cars. During the month of Nov., 1946, the average detention time in Chicago for the loading and unloading freight cars was 1.40 days. In contrast, the record for the same month in 1945 shows 1.62 detention days. This shortage in freight cars, and the general transportation congestion also has been showing up in the operation reports of our "Chicago Package Car System." This system was inaugurated by the Association in 1907, and has been considered one of our most important local traffic service activities ever since.

War-time transportation difficulties naturally have resulted in considerable reduction in the monthly on-time performance of package cars from Chicago. However, during the very recent postwar period there has been some recovery in our package car service. During 1946, a total of 395,893 package cars were forwarded from Chicago. This was an increase of 23.7 percent, as compared with 320,040 package cars during 1945. During the same period in 1946, national rail traffic showed an increase of only 14.6 percent. In the face of postwar transportation difficulties, we consider that this 1946 increase in Chicago packing car shipping is evidence of a splendid spirit of local cooperation between the rail carriers and shippers. It was a continuation of the same "Keep 'Em Moving" spirit which prevailed during the war period.

The traffic congestion which has prevailed recently in our Chicago shipping areas has indicated a need for more up-to-date records of performance. Formerly performance records for Chicago package cars were compiled and published by the Association only once every quarter. Recently it was decided that the publication of these records had become so important, as a service checking guide for both the rail carriers and the shippers that the record should be published monthly.

This is now being done. And the last issue of our "Way-To-Ship" bulletin, which shows package car performance for Jan. 1947, indicates that of the 30,393 package cars from Chicago for that month, the on-time records of 23,156 of them were reported back to the Association. Of these, only 53.7 percent arrived at destination on time. An additional 25.9 percent were one day late. 10.3 percent were two days late. 5.1 percent were three days late. 2.4 percent were four days late; 2.7 percent were five or more days late. A total of 5.2 percent of the cars late were delayed at destination.

Our transportation department also has been active in giving attention to rail and motor carrier loss and damage claims. From the viewpoint of preventive education, we have been cooperating with the "Perfect Shipping Month" program of the Association of American Railroads. Likewise, we have been cooperating with the claims control program of the American Trucking Assn. At the invitation of the ATA, we recently made several surveys among Chicago shippers. We requested them to file reports showing the promptness of the various

M. H. Kennelly Elected Chicago Mayor

Martin H. Kennelly, formerly president of Allied Van Lines, Inc., Chicago, and a prominent figure in warehousing circles for many years, is the newly elected Mayor of Chicago. Mr. Kennelly won in a landslide victory over his Republican rival, Russell W. Root.

Mr. Kennelly, a bachelor, was born in Chicago and enlisted in the Army during World War I. He rose to captain in the Quartermaster Corps. He entered the business world in 1919 in the warehousing business and in 1923 bought into the Werner Brothers Co. which is now known as Werner Brothers-Kennelly Co. He is a director of Wilson & Co. and has been president of the Chicago Athletic Assn.

motor carriers in settling loss and damage claims. Returns indicated a general improvement in this respect.

One of the biggest community servicing jobs of our transportation department has been the semi-annual publication of our "Way-To-Ship" bulletin. The 1,000-page rail shipping guide gives rates and routes to all stations in the United States and Canada. The supplementary rail package-car guide book shows a total of 450 terminal or break-bulk shipping points in 46 states and in the District of Columbia and Canada to which direct package car shipments from Chicago may be made.

Information

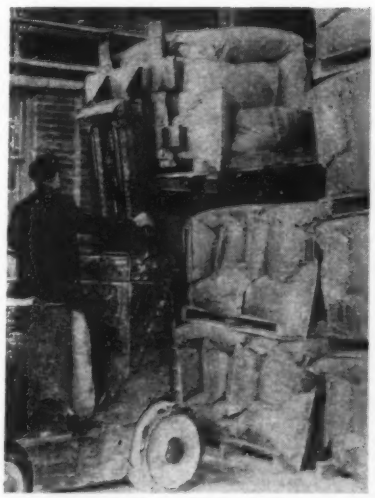
The rail shipping guide also is supplemented by our semi-annual publication of a carefully prepared "Way To Ship From Chicago" motor section, which lists all of the many thousands of trucking destination points, extending into 42 states and also into Alaska and Canada, which the 114 trucking operator members of the Association now are serving. To become an Association member, a carrier must establish his "operating and financial responsibility" to shippers. In the motor trucking section is listed all established Chicago highway truckers, including non-members. In Chicago there are nearly 500 over-the-road motor carriers. About one-half of these operators are in ICC Class I, doing a business of over $100,000 annually.

Our program of cooperation with the Cartage Detail of the Chicago Police Dept., is another Association activity. We also cooperate with the Illinois Highway Police in helping reduce hijacking threats to motor carriers through the maintenance of police patrolled highway routes. This activity also is supplemented by close cooperation with the FBI to lessen local freight pilfering.

We have added a new office service which consists in telephoning latest Weather Bureau warnings to shippers and motor carriers who handle from-Chicago shipments of perishable products likely to be endangered by sudden weather changes. Working with our transportation department is the industrial traffic council, which is composed of approximately 420 industries in the Chicago area. The 420 companies account for about 85 percent of the tonnage moving into and out of the districts. This council is divided into 30 commodity committees and 12 standing committees, each representing a different field. These committees meet regularly to give consideration to various traffic problems, and their recommendations are reported at the monthly executive committee meetings of the council. The transportation department then follows through on the action taken by the executive committee.

In the total, we believe that the transportation department of the Chicago Assn. of Commerce and Industry truly is performing a worthy service, in helping to improve the Chicago area as a manufacturing and distribution center.

Stacking Sacks



Pallet-loads of sacked starch received at Hammermill Paper Co. warehouse being tiered by means of battery-powered fork truck. Note method of "locking" sacks in stacking so as to prevent side-slipping of load, and insure evenness of tiering surface. Most sacked, or bagged, material can be stacked in unit loads in this fashion.

"How" Plan for Handling

(*Continued from Page 64*)

tory in the plant, terminal or warehouse.

In the case of a bottler, this basic unit might be 40 cases of "empties" delivered by truck, and ending up as 40 filled, labeled and packaged cases of the product. In the case of a valve manufacturer, it might be 1,000 lb. of body castings received from foundry, and followed through every handling and movement and pause, through more than a dozen machining and assembly and testing operations, right up to and into the final carton shipped to the dealer. It might be a piece of paper, which according to one recent study, was found to travel 2½ mi. in an office only 35 ft. square, most of it waste movement.

In the case used here as an illustration, the "banded" unit was a lot of 600 forgings received from the supplier by truck and processed by the subject company into the so-called universal-shaft-fork of a piece of portable machinery manufactured for use in the textile industry.

After the material-unit to be studied has been selected, the next step is to prepare a form with 10 major columns, headed as in Fig. 1. Note in Col. 2 that the analyzed operations are classified as: (a) handling operations; (b) moving operations; (c) inspecting, weighing and packaging operations; (d) those temporary pauses between steps classed as temporary storages; and (e) those stocking or warehousing storages referred to as permanent.

The complete form should cover matters of man-power, time, distance, number of units, weight, equipment, load shape, etc. Every single action involving movement or positioning of the sample load should be listed.

It is also wise to make a floor plan of the area involved, chart the path followed by the sample material unit, and file this diagram with the tabular information. Fig. 2 is such a diagram for the lot of 600 forgings for which data are collected in Fig. 1.

The plan should be to scale; and symbols should be used (see the key at the extreme left), to indicate ramps, doorways, elevators, bridges, outdoor movements, and each of the types of operations listed in Col. 2 of the tabular record. Such diagrams disclose desirable re-locations of processing tools, storage zones and receiving points, and suggest such worthwhile measures as the widening of aisles, the reduction of grades, and the like.

Bear in mind that the actual case history used as an example in Fig. 1 and 2 is of a well planned materials handling sequence. The countless "horrible examples" so common in industry would yield tables and diagrams infinitely more complex and replete with opportunities for improvement of the system.

Nonetheless, consider these facts about the case cited. The forgings were rehandled to such an extent that, actually, 12,600 units were manipulated, not just 600; over 80,000 lb. were rustled, not the mere 3,900 which represent the shipping weight; 5 different types of materials handling equipment were used; the total distance moved was the better part of a mile; over an hour and a half of time was eaten up in transportation; 22 men were involved; and 3 handlings; 18 moves, and 8 temporary pauses were involved. In the diagram, observe that change of level was involved at 3 points, not to mention the many lifts involved in stacking at storage and picking-up-and-putting-down at every processing station.

Thus is the basic data collected and recorded for file. The prudent extent of collection of such data will be indicated by the case. It may be wise to study 5 or 10 typical components, to make a separate study of office supplies, to trace sub-assemblies and finished products from the last assembly to the carriers which take them from the scene, or to analyze movements between plant buildings.

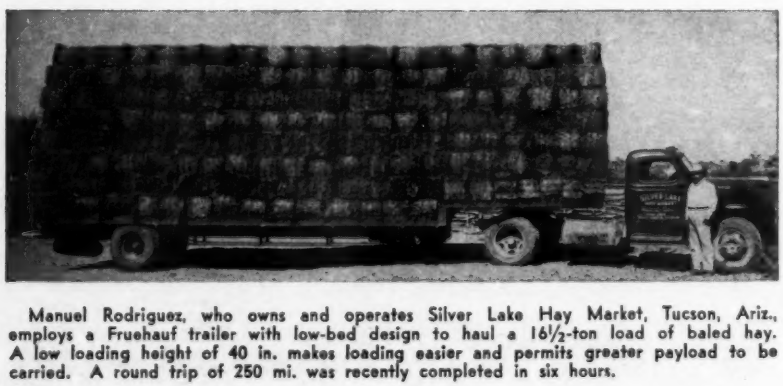
After the actual handling-histories are assembled, proper summarization and interpretation can yield overall views which are almost invariably startling.

One worthwhile procedure is to study, as described above, one or a few representative parts which go to make up the finished product and to multiply the totals for the representative part (the various column-totals in Fig. 1) by the number of parts which make up the product.

Thus, one can get indications of the total tonnage and the total number of items, handled in the production of one lot of finished products.

Generalization of the collected data to encompass all the plant operations may also be performed on a per-day or per-week basis—multiplying the totals for the representative part by the number of

A Lot Of Hay



Manuel Rodriguez, who owns and operates Silver Lake Hay Market, Tucson, Ariz., employs a Fruehauf trailer with low-bed design to haul a 16½-ton load of baled hay. A low loading height of 40 in. makes loading easier and permits greater payload to be carried. A round trip of 250 mi. was recently completed in six hours.

similar lots handled in the time unit chosen.

For instance, if the manufacturer of textile machinery used as an example were producing 40 machines per day, each with 900 parts of which the universal shaft-fork was considered representative, the summarizer could calculate daily parts production as 36,000 or consider this volume equivalent to 60 lots like the sample lot of 600 forgings. Applying this factor to the column-totals in Fig. 1, he could estimate the number of parts handled per day as three-quarters of a million (12,600 times 60) and the tonnage handled per day as 5,000,000 lb. or 2,500 tons (81,900 times 60). He could figure on 34 mi. of inside-the-plant hauling per day (3,015 ft. times 60), and 1,260 separate handlings and moving of part lots (18 plus 3 times 60).

Statistics

To these truly amazing totals, of course, should be added smaller totals summarized from studies of the handling of the finished products after assembly, and from consideration of the various materials which end up as crates or packages—all, of course, on a day basis. Such statistics, of course, are mere approximations. They can, however, be exact if your inquisitive materials handling staff is sufficiently thorough to analyze every incoming item and every sub-assembly. But whether an intelligent estimate or an accurate total is obtained—the evidence will be before you.

What's more, behind that evidence, and in file, will be detailed data to suggest means of eliminating useless rehandlings, needless lifts and travels, plant layout improvements, and that percentage of the handling which is being done by old-fashioned and inefficient manual methods.

The matter of new equipment (trucks, cranes, hoists and conveyors), the matter of loading methods (skids, pallets, skid bins), the matter of plant layout (aisles, elevators, docks, floor surfaces, and the matter of cost accountancy to segregate materials handling from other charges—all resolve themselves logically and completely if surveys such as here described have been made.

Unfortunately, these matters are not so approached today. The business of materials handling to date has been primarily one of easing specific trouble spots after they become impossible to overlook—not of analyzing the handling problem as one of material in motion and seeking out opportunities for cost cutting.

The Yale & Towne Mfg. Co. has developed and printed special forms, layout paper and instruction material for the easy assembling and filing of data along the lines of Fig. 1 and 2. Copies are offered to industry as a contribution toward industrial cost cutting by reducing handling costs.

Negligence

In L. Sonneborn Sons, Inc., v. Follmer, 70 N. E. (2d) 495, Ohio, a shipper sued a distributor for value of oil for which it could not account. The testimony disclosed possibility of loss of the oil while in possession of the carrier or while in storage tanks over which the shipper had control. The higher court refused to hold the distributor responsible, because his negligence was not proved. The carrier was not liable because the proof did not establish that the oil was lost when in its possession.

Worldwide Transportation Problems

(*Continued from Page* 44)

18½ ft. of water. The Mississippi River should be improved to accommodate our overseas and coast-to-coast tonnage as far north as St. Paul. From Alton, Ill., on the Mississippi, the Illinois River could be deepened to 21 ft. to connect with the Chicago Drainage Canal, already of that depth, in order to make deep sea ports of all our cities on the Great Lakes. In this way our remarkably low-cost lake transportation system could be connected and coordinated with the projected arterial canal system and lake boats released for 12 months of worldwide operation. The completion of the St. Lawrence waterway as well as the projected canal between Pittsburgh and Lake Erie is an inevitable and logical part of this program.

The proposed canal system would be 8,345 miles long including the 652 miles in the Tennessee River Valley, in the improvement of which 668 million dollars already has been expended. Other rivers and waterways, totaling 7,695 miles, are the Arkansas, Ohio, Missouri, Red, Wabash, White, Mississippi and the Illinois River—Chicago Drainage Canal. These improvements, based on the per mile cost of the Tennessee Valley project will represent a further outlay which should not exceed 8 billion dollars.

With our distributive system bogged down and with crops rotting in the fields because of a lack of box cars and other transportation equipment, the needs for this canal system is obvious. Such a system, properly coordinated with other existing modes of transportation, would help raise our productivity to the 250 billion dollar level necessary to take care of our debts and foreign commitments while at the same time lessening the burden on the taxpayers.

The steel industry, according to C. M. White, president, Republic Steel Corp., is the basis of our economic life. Mr. White declares "the end of open cut ore mining in the Mesabi range within the next 10 years. The prosperity of the United States, Mr. White states, is based upon a plentiful supply of high grade cheap furnace feed convenient to ample reserves of coking coal and near markets for the finished product—steel. The end of open cut ore mining would mean that much of the industry would be forced to migrate to the eastern seaboard and perhaps to the Gulf to utilize sea-borne imported ore. This development would effect changes of far reaching consequences, not only in what we now regard as the 'industrial heart of America' but in the entire nation and its economy."

The canal system which I have outlined in this article would help avert this possibility by providing arteries for the economical flow of raw materials, the life blood of industry. The foreign exchange created by such sea-borne imported ores would help our export markets and we should now be giving thought to the importation and inland transportation of foreign high grade iron ores in order to conserve our Lake Superior reserves against the possibility of an atomic World War III.

(Next month: "Ships and Sea Power.")

Airfreight Glamour

(*Continued from Page* 49)

mately revert to speed. They all fall in one class.

However, even though all commodities will be in the same class, it will still be necessary to set up two or more tables of rates. The reason for this is the density problem which is more acute in air transportation than in any other form of transportation. The airplane is a very limited vehicle. It will haul only certain stated amounts of freight for both weight and cube. It is not possible to load one pound more freight than the predetermined maximum load, nor is it possible to haul one cubic foot more than the cargo carrying capacity. With the railroads you take a car and load weight in that car far in excess of the tariff minimum. In fact, the maximum is so great that in most instances it is advisable to load towards the minimum. With a plane you have a reverse procedure. You must load to the maximum weight that the plane will haul. With a motor truck, you are not absolutely bound by the cube of the vehicle. Suppose you have a hundred or so extra cu. ft. to load—so what! You extend yourself a little, use a tail gate if you have one, consolidate your load a little better, or let the overflow wait for the next truck. You won't have to wait long in any event. It's no dice with a plane, however. No tail gate loads are possible and the wait for the next plane may nullify all of the advantage gained by the use of airfreight.

Bearing these things in mind you will see that there must be a density classification for airfreight. The base for this classification has to be the weight per cubic foot which will fill the plane to capacity for both weight and cube. With the present day airplane, and there are very few exceptions to this, the base should be six lb. per cu. ft., predicated on the use of the complete capacity of the plane. Commodities weighing more than this per cu. ft. must pay the rate established for commodities of six lb. per cu. ft. or you will run out of weight before the cube is used up. Commodities weighing less than six lb. per cu. ft. must pay a proportional increase over the base rate or you will run out of cube before you run out of weight.

What's Demurrage?

(*Continued from Page* 31)

a speedy release of cars, and their speedy return into circulation. (47 I.C.C. 162).

John retained the paper, and said: "These citations really do give the basic reasons for imposing demurrage charges, or penalties, on shippers and consignees who detain freight cars. Moreover they indicate that the interests of the shipping public come ahead of any railroad, shipper, or consignee."

"That's as it should be," declared Jack. "Every shipper and consignee ought to handle the loading and unloading of freight cars with the maxim that others need cars, too. Also, the outfit which delays cars, cuts down its own immediate opportunity to obtain a further supply. If these two facts were generally recognized it would go a long way in helping to check car shortages."

"Of course, everyone should perform along the line you suggest," agreed John. "Nevertheless, the railroads will always have to publish demurrage rules; they will have to assess charges on cars held beyond free time. All this brings us back to our opening thought. Why do so many consignees, years after year, keep on paying heavy demurrage charges? Why do they constantly have obstructions in the unloading of cars?"

"There are several explanations, John. For instance, it may be due to poor layout of side tracks of a consignee's private siding; insufficient room on the siding for the average number of cars received; inadequate materials handling equipment for unloading the cars; failure to have the necessary records to provide essential daily information on the unloading program; absence of centralized supervision. Furthermore, bunched delivery of cars by the railroad, an excess of cars over the number usually arriving at one time, makes it impossible for a consignee to carry on operations smoothly. Also, lack of labor is another reason for slow unloading of inbound cars."

"Jack, do you honestly believe that bunching of cars in delivery by a railroad, and shortage of labor, perpetually exists at any industrial plant?"

"No," Jack admitted, "but they are contributing influences in relation to demurrage. That's why I included them."

"Just the same we can discount them," insisted John. "Any company at times may be faced with bunched delivery of cars, and shortage of help in labor gangs is a handicap. But, bunching is not a regular occurrence, and shortage of labor doesn't arise year in and year out at any factory."

"I agree that the cause is far deeper," said Jack. "On the whole, in any plant where unreasonable demurrage charges are permitted to accrue every month, it will be found to originate in oversight, neglect, and want of consideration."

"Assuming your assertion to be correct, Jack, then, insofar as a single company is concerned, who is to blame for disregarding such an important matter?"

Jack gave thought to the question, and then responded: "To some extent the department heads accountable for the unloading of freight cars are answerable to the allegation of negligence. By and large, though, top management must bear the responsibility. Where an unsatisfactory demurrage situation remains it is mainly because the company's officials have failed to appreciate the value of efficient traffic department supervision."

"But," continued Jack, "when top management in an industry finally realizes the need for a traffic department, and gives it authority to act, then demurrage will be abated. I recall an occurrence which sustains this statement. "Here's what happened . . .

The Ajax Corp. appointed Harry Conrad as its traffic manager. As this was the organization's initial venture with traffic

management, Harry had to start from scratch in building his department. This involved months of hard effort during the day time, and much night time work as well. Among his preliminary investigations he discovered an unsound set-up in the handling of freight car unloading which led directly to high monthly demurrage charges. He was astounded to find that for the twelve months prior to his appointment the company had paid demurrage amounting to over $18,000. Accounts for previous years revealed similar excessive charges.

Despite the faulty circumstances surrounding the placement and unloading of freight cars, press of other affairs prevented Harry from concentrating exclusively on this particular critical point. Notwithstanding, he arranged to include it in his schedule. He made some slight progress in spite of the confusion stemming from the company's neglect over the past years.

Commencing his duties as traffic manager for Ajax as of Jan. 1, 19—, it was not until the following August that his efforts to control demurrage for the concern began to show definite results.

Harry had ascertained that the company did have the average demurrage agreement with the railroad, and that the accounting department ran a monthly demurrage register on a daily basis. However, there was no routine for notifying the operating divisions of each day's car arrivals, nor did these departments have any information or means of positively knowing when cars handled by them were due to go on demurrage. Seven departments received and unloaded freight cars. The book maintained by the accounting department necessitated six different entries of car number, date, etc., from time of arrival of a car until it was unloaded and released to the railroad. The entire time of one clerk was required to carry on the record, but with all that it was never up-to-date. As Harry once curtly remarked: "Things were in a muddle."

Over the months Harry gave as much thought to demurrage as was possible. Finally by August he had developed a new method for demurrage records which simply took half a day of a clerk's time inasmuch as only one entry for the car number, date, etc., was needed.

He also installed a daily report system showing, for every car, the number, date received, and kind of commodity, including a notice as to when each car was due to go on demurrage if not unloaded within the free time period. It further showed the cars on hand beyond the forty-eight hours and the number of debits. Copies of the daily advices were sent to all seven of the operating departments with one to the general manager of the plant. They were compiled, typed, and delivered by special messenger to the various departments by 10:00 a. m. every working day.

The effect was startling. During the first seven months of the year, while Harry was struggling to meet the issue, the demurrage charges paid by the company to the railroad aggregated a total of $15,182. But, for the final five months of that year, with an increase in cars received monthly, the demurrage paid amounted to merely $345. In other words, as soon as Harry's new plan was completed and put into action the average monthly demurrage charges dropped from $2,169 down to $69.

Then, as the daily reports became a composite part of the company's departmental procedure, top management was surprised and gratified to note that not one cent was paid for demurrage during the following year. All this came about because the placement and handling of the unloading of freight cars was given proper attention, instead of the hit-or-miss practice which had formerly prevailed.

Traffic management again had made good by demonstrating that costs of transportation can be reduced.

Expanding Services

(*Continued from Page* 71)

of radiotelephones on switch engines have been made.

Some critics of railroading say it is an extremely conservative industry. But railroads are conservative only to the extent that they will not adopt something new until it has proved dependable and of value toward better transportation. Research organizations maintained by the railroads continually try and test new materials and new methods.

There are unseen elements behind the spectacular streamliners and the overnight freight of today; for example Southern Pacific's research laboratory in Sacramento, modern machinery in Southern Pacific shops, new loading and unloading equipment, electronics devices used in testing our track and many other progressive elements.

In the future, there will be more and better rolling equipment. Southern Pacific's new equipment program includes 11,250 modern freight cars, 52 streamlined lightweight passenger cars, 25 Diesel-electric main line locomotives, 23 more Diesel-electric switching locomotives, and half ownership in 5,100 new refrigerator cars. This purchase program indicates our faith in the future and our courage in the face of the uncertainties of the present.

Legal Agent

In Greyvan Lines, Inc. v. Nesmith, 50 Atl. (2d) 434, D. C., it was shown that a motor carrier agreed to ship goods to Washington and to store them with a warehouseman. Instead it stored the goods with another warehouse company. In subsequent litigation the higher court held that the latter warehouse company was legal agent of the carrier. Also, this court held that the carrier was liable for theft of the goods while in storage although the owner filed a claim with the warehouse company and not with the carrier.

In addition, this higher court held that a clause in bill of lading limiting the carrier's liability to 30c. per lb. unless claimed by the shipper on inventory attached to the bill of lading was not applicable since the shipment was interstate and the loss resulted from negligence of the motor carrier.

Packing For Rail Shipment

(*Continued from Page* 33)

3. Consult carton supplier on advisability of an inner liner to double the rigidity of the four walls, or on the adoption of an outside sleeve.

4. Consider smaller unit packs.

5. As long as the paper-board situation is acute, consider using other types of containers such as wire-bound boxes, nailed-wooden boxes, cleated plywood or cleated paperboard for added protection.

The second factor which is having a disastrous effect on good shipping is the shortage not only of railway freight cars, but of cars in good condition. Even though some of the roads have contracted for considerable new equipment, no real relief can be expected during the remainder of 1947. This means shippers are being asked to load cars to their maximum capacity. The roads are turning empties around without taking time even to clean, much less to repair, faulty floor boards and other hazards.

Here again the shipper is confronted with a realistic situation. Receivers are pressing for goods. The transportation office accepts whatever cars are offered, in many cases. These are loaded, often under pressure, to the hilt. Even so, the precepts of a perfect shipping record need not be forgotten. The steps recommended above for improving one's shipping unit in face of the pulp shortage, of course, also will serve to help offset the disadvantages of the present shortage of rail cars. Other steps which can be taken are as follows:

1. It is most important to secure from Assn. of American Railroads the appropriate pamphlet on loading, stowing, bracing and securing of the type of cargo being handled. Secure sufficient copies for all connected with car-loading. This should be required reading and all recommended practices should be adopted.

2. Look for floor and interior flaws in railway equipment that is offered. Do not be above repairing a loose board or closing a hole—it may be cheaper in the end. If the car is too poor, insist upon replacement.

3. Be satisfied that your containers will withstand unusual stresses and shocks. For example, strapping secured to old side walls may not hold the entire trip.

4. Make more use of anti-skid plates underneath heavy boxes.

5. Study routings to achieve the least number of terminal or transfer points.

6. Revise shoring and bracing methods to avoid depending upon the cargo itself for support.

7. Supply car-blockers with extra-long and extra-heavy nails for old floor and walls.

8. For vehicles, extra heavy equipment and machinery, consider U-bolts secured through the floor of the car itself and use of steel rope lashings and turnbuckles.

9. Load and stow properly; heavy freight under lighter pieces—no play or voids whatsoever.

10. Invite consultation by freight container and packaging experts, the Department of Commerce, and other groups actively concerned with aiding industry to achieve high performance in rail freight transportation.

There is some hope that by the time Perfect Shipping Month rolls around in 1948, the two serious handicaps to good shipping now before us will have been somewhat ameliorated. For the shipper who refuses to succumb to these obstacles, and who makes the extra effort necessary to achieve a good record, there will be extra dividends. Having fought and won his objectives in the face of shortages, he will be that much further ahead when there are more adequate supplies of pulp and rail equipment.

People in Distribution

Raymond S. McKeough, a member of the U. S. Maritime Commission has been elected vice chairman of the Commission for the ensuing year.

The Shippers' Conference of Greater New York elected the following officers: **H. H. Horton,** general traffic manager, General Baking Co., chairman; **E. K. Laux,** traffic manager, Port of New York Authority, first vice chairman; **J. J. A. Winzenried,** traffic manager, Devoe & Reynolds Co., Inc., second vice chairman; **R. H. Goebel,** traffic manager, The Rubber Mfrs. Assn., Inc., secretary-treasurer.

Walter Holland has joined the staff of the American Trucking Assns., Inc., as assistant to **Harry Bridgman,** director of the Field Service Dept.

George P. Wylly was appointed treasurer of Scandinavian Airlines System, Inc.

United Air Lines plans to establish closer relationships with eastern Canada with the appointment of **M. J. Foley** of Montreal as United's Canadian representative.

Pan American World Airways System has appointed **John W. G. Ogilvie** as express traffic manager, succeeding **Louis Cholot,** who has resigned.

W. L. Thompson, Jr., president of Mercury Airfreight Corp., has been appointed to the Aviation Committee of the Los Angeles Chamber of Commerce.

C. J. Goodyear, traffic manager, Philadelphia and Reading Coal and Iron Co. was elected president of the Traffic Club of Philadelphia. Other officers include: **C. S. Rogers,** first vice president; **Robert Maguire,** second vice president; **E. L. Wink,** treasurer; **S. B. Niemen,** secretary, and **W. H. Whyte,** editor, *The Traffic Messenger.*

Mendel A. Keith has resigned as general traffic manager of International Derrick & Equipment Co. (and predecessor company, International-Stacey Corp.) to accept the position of traffic manager of The Columbus Coated Fabrics Corp. at Columbus, O. He has also resigned as president, The Oil & Gas Well Supply Traffic Assn.

George R. Fairhead, general freight traffic manager, Canadian National Railways, has retired under the pension rules of the company.

Pallet Sales Co., New York, which designs and constructs a wide variety of pallets for use in modern materials handling practices, will be known henceforth as the Pallet Sales Corp. **Harold L. Posner,** has been named president, succeeding the late Mortimer A. Lowe, founder of the parent organization. **Curtis H. Barker, Jr.,** has been designated vice president and director of research and service.

Arthur Stangel, vice president and general manager of the J. J. Stangel Hardware Co., has been appointed district chairman for Wisconsin of the Committee for Economic Development.

C. R. Harmon has been appointed Pittsburgh district sales manager for Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.

R. B. Hollingsworth, formerly manager of Fruehauf Trailer Co.'s Richmond and Atlanta branches, was appointed regional manager of the southeast area, succeeding **E. E. Springer,** 20-year veteran of the Fruehauf organization, who is named manager of the company's new Florida branch, under construction at Jacksonville. **Dozier L. Hood,** former salesman at the Atlanta branch, is promoted to branch manager.

With the acquisition of the Carter Mfg. Co. and its branches in Memphis, Nashville and Birmingham, **N. A. Carter, Jr.** is appointed Fruehauf-Carter regional manager covering the mid-south area.

B. Ross Brown was appointed comptroller for the Pittsburgh Corning Corp. succeeding the late **M. Emerson Good.**

OBITUARY

A. E. Morgan, 47, traffic manager of The Columbus Coated Fabrics Corp., Columbus, O. He was treasurer of The Columbus Transportation Club and was a candidate for vice president at the coming election.

Edward J. Engel, 72, Pasadena, Cal., retired president and member of the board of directors and executive committee, Atchison, Topeka and Santa Fe Railway Co.

F. J. Robinson, president, Savannah Bonded Warehouse & Transfer Co., Savannah, Ga.

The Midwest Pallet Corp. was recently established and incorporated under the laws of Indiana, to produce hard and soft wood pallets. The corporation is headed by **Ray W. Capron. C. Lafon Lash,** a construction engineer, is supervising the production activities, **F. A. Doebber,** president, Associated Traffic Clubs Foundation, and recent president, The Associated Traffic Clubs of America, is a member of the corporation's directorate, and will look after its transportation requirements.

Henry Rowold was appointed assistant general sales manager of Mack-International Motor Truck Corp. Mr. Rowold, also a vice president of the company, combines his new duties with those of national accounts manager.

The Four Wheel Drive Auto Co.'s sales promotion and advertising departments have been consolidated under the managership of **M. O. Stockland, Jr.**

Pittsburgh Plate Glass Co.'s Board of Directors has elected **Richard R. Tucker** executive vice president and **Donald C. Burnham** and **John A. Wilson** vice presidents. **Wallace R. Harper,** manager of the firm's Boston, Mass., warehouse, has been named manager of plate glass sales, succeeding Mr. Burnham in that position. **William A. Gordon** was promoted to manager of trade sales. **Marvin W. Marshall,** manager of industrial glass sales, will assume direction of plate and safety glass sales to all production accounts excepting the largest automotive accounts. **Felix T. Hughes** has been appointed manager of warehouse sales.

Waterman Engineering Co., Evanston, Ill. has appointed **John R. McGuire** as sales manager.

W. H. Kneass was appointed Chicago district manager for U. S. Tires.

Harnischfeger Corp. of Milwaukee, builder of P&H products, has appointed **Ralph D. Holcomb** as general sales manager.

George W. Healey, has purchased the entire business of Fidelity Van & Storage Co., Los Angeles. He was formerly associated with Greyvan Lines and with North American Van Lines. He was also a member of the Board of Directors of the Household Goods Carriers' Bureau. **Vernon Anderson** also formerly connected with Greyvan Lines and more recently assistant manager of International Forwarding Co., Los Angeles, is vice president of Fidelity.

Fidelity Van & Storage was operated for many years by **George W. Hover** who has retired, and who was president of the United Van & Storage Assn.

R. B. Young, Jr., was elected president, Savannah Bonded Warehouse & Transfer Co., Savannah, Ga., to succeed the late F. J. Robinson.

By LEO T. PARKER
Legal Consultant

Getting down to *Cases*

IN STATE ex rel Western Canadian, 175 Pac. (2d) 640, Wash., a Canadian common carrier secured authority to detour through the state of Washington when its regular route in Canada was closed because of snow. The carrier was not authorized to pick up goods, and it had never appointed an agent within the state. The higher court held that the drivers of the carrier's vehicles were not its legal agents, and could not represent it in the United States.

Danger

In East Coast Freight Lines, Inc., v. Consolidated Gas, Electric Light & Power Co. of Baltimore, 50 Atl. (2d) 246, Md., it was shown that a tractor-trailer collided with an electric light pole three feet inside of a grass plot in the center of the highway. The driver was killed and his widow sued the electric company proving that the electric company had contracted with the city to maintain lights in the grass plot, and that the vehicle collided with the pole because the electric company had failed to keep lights on the pole. The higher court refused to hold the electric company liable saying that breach of the contract made with the city did not make the company liable for injuries to the general public.

Legislation

In Tennessee Cent. Ry. Co. v. Pharr, 198 S. W. (2d) 289, Tenn., the higher court held that fixing of rates of a common carrier by the Public Utilities Commission is a legislative function. This court also held that an order of the Public Utilities Commission reducing freight rates from $1.45 a ton to $1.30 a ton did not deprive the carrier of its property without due process of law in violation of the 14th Amendment.

Earnings

In Consolidated Freightways, Inc., v. Flagg, 176 Pac. (2d) 239, Ore., the higher court held that gross earnings on which a motor transport company must pay taxes include all earnings derived from loading, unloading, transporting, picking up and delivering freight.

A BAILOR, the owner of stored goods, cannot recover the value from the bailee warehouseman for lost goods, unless testimony is introduced proving that the loss directly resulted from the warehouseman's negligence.

In L. Sonneborn Sons, Inc., v. Follmer, 70 N. E. (2d) 497, Ohio, a bailor sued a bailee to recover the value of merchandise which the former contended disappeared while in possession of the warehouseman.

The higher court refused to hold in favor of the bailor and stated that for him to recover a favorable verdict he must prove (1) that the merchandise was delivered to the warehouseman; and (2) that the warehouseman failed to exercise ordinary care to safeguard it.

This higher court decided another important point of law, as follows: A warehouseman may issue warehouse receipts for the full quantity of merchandise which the bailee claimed he delivered for storage, but the warehouseman does not guarantee to holders of the warehouse receipts that the bailee delivered the quantity or quality of merchandise described in the receipts.

Leases

A valid warehouse lease is: (1) One certain to commence; (2) definite duration; and (3) definite termination. In Smith's Transfer & Storage Co., Inc. v. Hawkins, 50 Atl. (2d) 267, D. C., a written warehouse lease was litigated. This lease stated that it should continue for one year, and if at end of one year the war of United States with Germany and Japan had not been terminated, then the lease should continue until the "end of war." The higher court held the lease valid and that it did not terminate at the end of one year, since the war had not ended at that time.

According to a recent higher court the owner of a warehouse may terminate a lease before its expiration date, if such owner proves that the tenant failed to exercise reasonable care to save the premises from ordinary damages.

In Thisius v. Sealander, 175 Pac. (2d) 619, Wash., the owner of a warehouse sued to cancel a lease on the contention that the tenant or warehouseman, who occupied the premises, intentionally permitted waste on the premises, in that he failed to lubricate the cold storage machinery properly and used a poor grade of lubricant, resulting in damage to certain equipment. The landlord stated in addition that the warehouseman had failed and neglected to operate the heating plant properly and with reasonable care. This court held: "When a landlord establishes that his tenant is guilty of unlawful detainer, forfeiture of the tenant's rights under the lease necessarily follows as an incident thereto."

Garage

In Mitchell v. Green, 39 S. E. (2d) 696, Ga., a city ordinance was before the court which provides that it shall be unlawful for any person without a permit to erect a public garage.

The higher court held that only garages utilized to store automobiles for daily or monthly storage are "public" garages. Thus, a garage utilized to store the owner's trucks is not a "public" garage.

Employment

The courts consistently hold that a truck driver who abandons his regular line of travel, for a purpose of his own, acts outside the scope of the employment, whereby the employer is relieved from liability for his negligence. See Boehmer v. Norton, 65 N. E. 212, Ill., where a driver of a motor truck, instead of obeying his employer's direction to put the truck in the garage, passed the garage. Later he had a wreck seriously injuring a pedestrian who sue the employer for damages. The higher court held the employer not liable.

UNDER no circumstances will a forged signature convey legal ownership to merchandise.

In Nathe v. Fred W. Gray Co., 171 Pac. (2d) 67, Cal., it was shown that Nathe was the owner of valuable merchandise. His friend forged a bill of sale and sold the merchandise. The higher court held that Nathe could recover possession of the merchandise.

Contract

All contracts naming freight rates not approved by the Public Service Commission are void.

In Steele v. General Mills, Inc., 67 S. Ct. 439, it was shown that a private contract motor carrier procured a permit from the Public Service Commission. The carrier represented that it would charge rates fixed by the commission. Later the carrier made a contract with a shipper secretly agreeing to charge lower rates. The higher court held the lower rate void.

Infringement

One who infringes a valid trademark must pay to the owner of the trademark all profits earned by infringement, plus all damages, and the court can allow triple damages. See Hard, 67 Fed. Supp. 1000. In Larraine, 157 Fed. (2d) 115, the higher court held that an innocent infringer of a trademark is liable in damages to the owner of the infringed trademark. Hence an innocent infringer and a wilful infringer are equally liable.

FAILURE of an insured to read his insurance policy does not excuse him from future liability, nor result in an insurance company being obligated beyond the actual words used in the policy.

In Brown v. Jones, 4 Fed. Cas. 404,

(Continued on Page 118)

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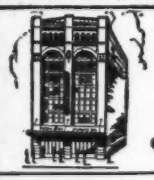

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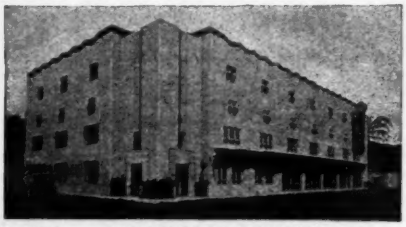

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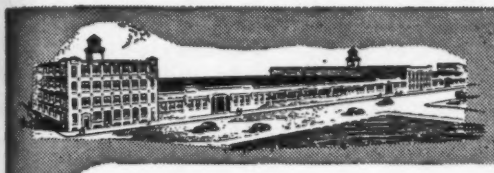
What does the Assn. of American Railroads do for the shipper? See the article on page 18 of this issue.



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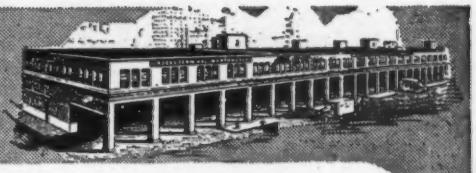

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A. H. Schwietert, traffic director, Chicago Assn. of Commerce, writes about community shipping problems in an article on page 25.

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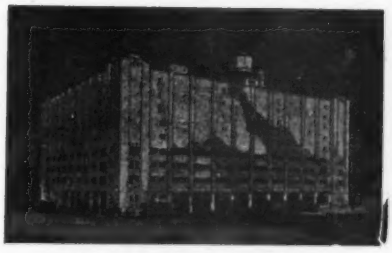

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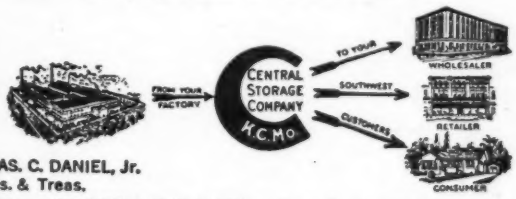

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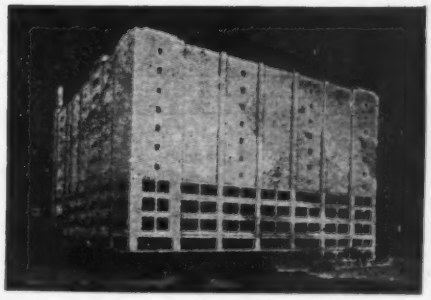

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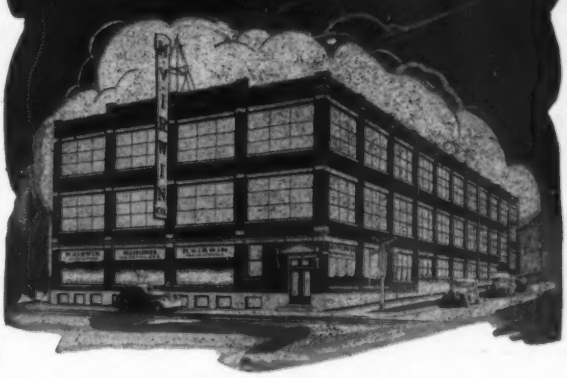

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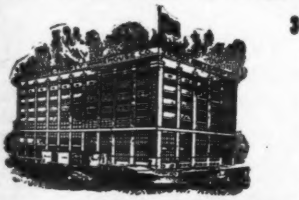

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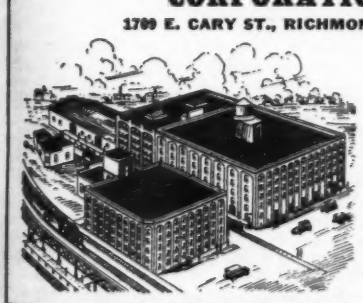

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Specialize in serving food and related industries; pool car distribution; 44 trucks and 6 tractors with semi-trailers. New 59,000 ft. modern warehouse, equipped with forklift tractors.

Down To Cases . . .

(*Continued from Page* 89)

a policy stated that the insured was protected against injuries to employes in its plant "or elsewhere."

The court held that this policy did not cover the insured for injuries sustained by its employes in any location off the company's premises.

For comparison see Corder v. Morgan Roofing Co., 195 S. W. (2d) 441, Mo. Here it was shown that the Morgan Co. held a liability insurance policy covering all work done in its plant and "elsewhere in the state of Missouri." A truck driver was killed on a highway in the state.

The higher court held that the insurance policy protected the Morgan Co. against damage suits filed by the deceased employe's dependents.

Unemployment

An employer for whom services are rendered by an independent contractor does not come within the scope of the Unemployment Insurance Act.

In California Employment Stabilization Commission v. Lund, 173 Pac. (2d) 379, Cal., a corporation leased space to former employes to repair its vehicles. The employes furnished their own hand tools, parts, and supplies and the corporation paid them a predetermined flat price for doing each job.

The higher court held that these employes were "independent contractors" and were not legal "employes." Therefore, the corporation need not pay Social Security Taxes or unemployment insurance contributions to the state on these employes.

Pledges

According to a recent higher court, a person who has financial interest in merchandise pledged to a loan company stands to lose his interest if he fails to notify the loan company all details of the transactions. See Ruddy v. Oregon Automobile Credit Corp., 174 Pac. (2d) 603, Ore., where the owner of merchandise pledged it with one who pledged it with a loan company. The higher court held that the owner of the merchandise forfeited his interest in the merchandise because he failed to notify the loan company that he owned the merchandise.

Loss

All courts have adopted this rule: Where one of two innocent persons must suffer from the wrongful act of another, the loss must fall upon the one making the loss possible.

In Walsh v. Hunt, 52 P. 115, one Hughes was authorized by Willis to negotiate a loan for $500. Thereafter Hughes presented for the Willis' signature a note and mortgage which he executed in pencil. Later Hughes erased the pencil words and figures and wrote in lieu thereof with pen and ink "$1,200."

The higher court held that the lender could recover $1,200 from Willis upon the theory that the latter was guilty of negligence in executing the documents written in pencil, thus enabling Hughes to perpetrate his fraud.

Hence under no circumstances should any one sign a contract or other instrument whose body is written in pencil.

Consent

Recently a higher court decision held that a corporation cannot dispose of all of its property without the unanimous consent of stockholders who may vote legally. See Gottschalk v. Avalon Realty Co., 23 N. W. (2d) 606, Wisconsin.

Limitation

In all states limitation statutes "outlaw" suits not filed within the period specified by these laws. In Warren-Teed Seed Co., 68 N. E. (2d) 898, Ill., reported Nov., 1946, one Julia a stockholder in a corporation alleged that the bookkeeping method shows a fictitious debt, and is therefore fraudulent.

Since the right of Julia to file the suit arose in 1931, and a state law stated that suits of this nature must be filed within five years, the higher court refused to hold in favor of Julia, who filed suit in 1946.

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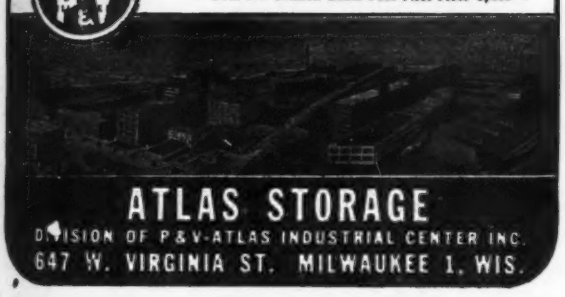

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CANADIAN WAREHOUSEMEN'S ASSOCIATION — OFFICIAL SEAL

Index to General Advertisers

Public warehouse advertisements start on page 90 and are arranged alphabetically by states, cities and firms.

RIGHT DOWN YOUR AISLE!

Narrow aisles are no obstacle to the Hyster "20". The compact unit, only 36" wide, is a money-saver in crowded factories, warehouses; loading and unloading box cars. Hyster makes seven models — from the 2000-lb. capacity "20" to the 30,000-lb. capacity MH Straddle Truck. Write for catalogs.

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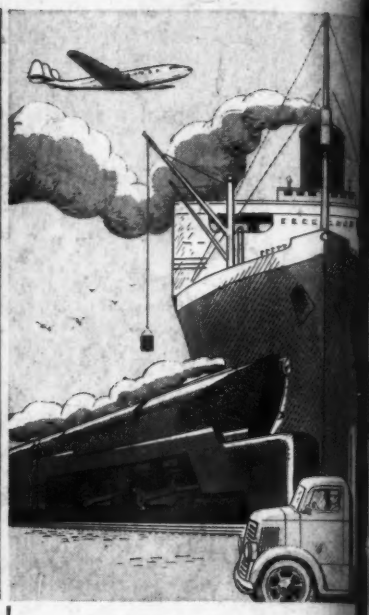

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